Avid Unity™ MediaNetwork

Management Guide

make manage move | media™ Avid®

Copyright and Disclaimer

Product specifications are subject to change without notice and do not represent a commitment on the part of Avid Technology, Inc.

The software described in this document is furnished under a license agreement. You can obtain a copy of that license by visiting Avid's Web site at www.avid.com. The terms of that license are also available in the product in the same directory as the software. The software may not be reverse assembled and may be used or copied only in accordance with the terms of the license agreement. It is against the law to copy the software on any medium except as specifically allowed in the license agreement.

Avid products or portions thereof are protected by one or more of the following United States Patents: 4,746,994; 4,970,663; 5,045,940; 5,267,351; 5,309,528; 5,355,450; 5,396,594; 5,440,348; 5,452,378; 5,467,288; 5,513,375; 5,528,310; 5,557,423; 5,577,190; 5,584,006; 5,640,601; 5,644,364; 5,654,737; 5,715,018; 5,724,605; 5,726,717; 5,729,673; 5,745,637; 5,752,029; 5,754,851; 5,799,150; 5,812,216; 5,828,678; 5,842,014; 5,852,435; 5,987,501; 6,061,758; 6,223,211; 6,301,105; 6,532,043; 6,546,190; 6,636,869; 6,747,705, 6,763,523; 6,813,622. Other patents are pending.

No part of this document may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, for any purpose without the express written permission of Avid Technology, Inc.

Copyright © 2005 Avid Technology, Inc. and its licensors. All rights reserved. Printed in USA.

The following disclaimer is required byGenivia inc.

"Part of the software embedded in this product is gSOAP software. Portions created by gSOAP are Copyright (C) 2001-2004 Robert A. van Engelen, Genivia inc. All Rights Reserved. THE SOFTWARE IN THIS PRODUCT WAS IN PART PROVIDED BY GENIVIA INC AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE."

The following disclaimer is required by Apple Computer, Inc.

APPLE COMPUTER, INC. MAKES NO WARRANTIES WHATSOEVER, EITHER EXPRESS OR IMPLIED, REGARDING THIS PRODUCT, INCLUDING WARRANTIES WITH RESPECT TO ITS MERCHANTABILITY OR ITS FITNESS FOR ANY PARTICULAR PURPOSE. THE EXCLUSION OF IMPLIED WARRANTIES IS NOT PERMITTED BY SOME STATES. THE ABOVE EXCLUSION MAY NOT APPLY TO YOU. THIS WARRANTY PROVIDES YOU WITH SPECIFIC LEGAL RIGHTS. THERE MAY BE OTHER RIGHTS THAT YOU MAY HAVE WHICH VARY FROM STATE TO STATE.

The following disclaimer is required by Sam Leffler and Silicon Graphics, Inc. for the use of their TIFF library:

Copyright © 1988–1997 Sam Leffler
Copyright © 1991–1997 Silicon Graphics, Inc.

Permission to use, copy, modify, distribute, and sell this software [i.e., the TIFF library] and its documentation for any purpose is hereby granted without fee, provided that (i) the above copyright notices and this permission notice appear in all copies of the software and related documentation, and (ii) the names of Sam Leffler and Silicon Graphics may not be used in any advertising or publicity relating to the software without the specific, prior written permission of Sam Leffler and Silicon Graphics.

THE SOFTWARE IS PROVIDED “AS-IS” AND WITHOUT WARRANTY OF ANY KIND, EXPRESS, IMPLIED OR OTHERWISE, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT SHALL SAM LEFFLER OR SILICON GRAPHICS BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES OF ANY KIND, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER OR NOT ADVISED OF THE POSSIBILITY OF DAMAGE, AND ON ANY THEORY OF LIABILITY, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

The following disclaimer is required by the Independent JPEG Group:

Portions of this software are based on work of the Independent JPEG Group.

The following disclaimer is required by Paradigm Matrix:

Portions of this software licensed from Paradigm Matrix.

The following disclaimer is required by Ray Sauers Associates, Inc.:

“Install-It” is licensed from Ray Sauers Associates, Inc. End-User is prohibited from taking any action to derive a source code equivalent of “Install-It,” including by reverse assembly or reverse compilation, Ray Sauers Associates, Inc. shall in no event be liable for any damages resulting from reseller’s failure to perform reseller’s obligation; or any damages arising from use or operation of reseller’s products or the software; or any other damages, including but not limited to, incidental, direct, indirect, special or consequential Damages including lost profits, or damages resulting from loss of use or inability to use reseller’s products or the software for any reason including copyright or patent infringement, or lost data, even if Ray Sauers Associates has been advised, knew or should have known of the possibility of such damages.

The following disclaimer is required by Videomedia, Inc.:

“Videomedia, Inc. makes no warranties whatsoever, either express or implied, regarding this product, including warranties with respect to its merchantability or its fitness for any particular purpose.”

“This software contains V-LAN ver. 3.0 Command Protocols which communicate with V-LAN ver. 3.0 products developed by Videomedia, Inc. and V-LAN ver. 3.0 compatible products developed by third parties under license from Videomedia, Inc. Use of this software will allow “frame accurate” editing control of applicable videotape recorder decks, videodisc recorders/players and the like.”

The following disclaimer is required by 3Prong.com Inc.:

Certain waveform and vector monitoring capabilities are provided under a license from 3Prong.com Inc.

Attn. Government User(s). Restricted Rights Legend

U.S. GOVERNMENT RESTRICTED RIGHTS. This Software and its documentation are “commercial computer software” or “commercial computer software documentation.” In the event that such Software or documentation is acquired by or on behalf of a unit or agency of the U.S. Government, all rights with respect to this Software and documentation are subject to the terms of the License Agreement, pursuant to FAR §12.212(a) and/or DFARS §227.7202-1(a), as applicable.

Trademarks

888 I/O, Adrenaline, AirPlay, AirSPACE, AirSPACE HD, AniMatte, AudioSuite, AudioVision, AutoSync, Avid, Avid DNA, Avid DNxHD, AVIDdrive, AVIDdrive Towers, Avid Mojo, AvidNet, AvidNetwork, AVIDstripe, Avid Unity, Avid Xpress, AVoption, AVX, CamCutter, ChromaCurve, ChromaWheel, DAE, D-Fi, D-fx, Digidesign, Digidesign Audio Engine, Digidesign Intelligent Noise Reduction, DigiDrive, Digital Nonlinear Accelerator, DigiTranslator, DINR, D-Verb, Equinox, ExpertRender, FieldPak, Film Composer, FilmScribe, FluidMotion, HIIP, HyperSPACE, HyperSPACE HDCAM, IllusionFX, Image Independence, Intraframe, iS9, iS18, iS23, iS36, Lo-Fi, Magic Mask, make manage move | media, Marquee, Matador, Maxim, MCXpress, Media Composer, MediaDock, MediaDock Shuttle, Media Fusion, Media Illusion, MediaLog, Media Reader, Media Recorder, MEDIArray, MediaShare, Meridien, MetaSync, NaturalMatch, Nearchive, NetReview, NewsCutter, Nitris, OMF, OMF Interchange, OMM, Open Media Framework, Open Media Management, ProEncode, Pro Tools, QuietDrive, Recti-Fi, RetroLoop, rS9, rS18, Sci-Fi, Softimage, Sound Designer II, SPACE, SPACEShift, Symphony, the Avid|DS logo, Trilligent, UnityRAID, Vari-Fi, Video Slave Driver, VideoSPACE, and Xdeck are either registered trademarks or trademarks of Avid Technology, Inc. in the United States and/or other countries.

iNEWS, iNEWS ControlAir, and Media Browse are trademarks of iNews, LLC.

Macintosh and Mac OS are trademarks of Apple Computer, Inc., registered in the U.S. and other countries. Microsoft, MS-DOS and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. All other trademarks contained herein are the property of their respective owners.

Avid Unity MediaNetwork Management Guide• 0130-062820-01 • April 2005

Contents

Using This Guide 15
Symbols and Conventions 16
If You Need Help 17
Related Information 18
How to Order Documentation 19
Avid Educational Services 19

Chapter 1 **MediaNetwork Management Overview** 21
Management Tasks and Overall Considerations 22
Directory and File Limits 23
LANserver EX 23
MediaNetwork 24
Management Tools 26
Setup Manager 26
Administration Tool 27
Monitor Tool 28
Getting Help with the Monitor Tool 29
Configuring a Workgroup 30
Creating a Data Drive Set 30
Creating an Allocation Group 31
Creating New Workspaces 32
Creating User Accounts 34
Protecting Data 35

Chapter 2 **Setup Manager** 37
Setup Manager Overview 38
Getting Help with the Setup Manager 39
Starting the Setup Manager 39
Using Setup Manager in a Fail-Over Configuration 39
Fail-Over Configuration Guidelines 40
Determining the Active File Manager 40
Starting and Stopping the File Manager 40
Starting the File Manager 40
Stopping the File Manager 41
Logging Out and Stopping the File Manager Changes 42
Stopping the File Manager 42
Online Drive Recovery 43
AutoRecovery for Failed Drives 43
Before You Begin 43
Enabling AutoRecovery for Failed Drives 44
Chapter 3 **Configuring General, Fail-Over, and Remote Error Notification Parameters** 45
Configuring General Settings 46
MEDIArray ZX Drive and File Counts Using the Windows 2000 Operating System 48
Configuring File Manager Fail-Over 48
Fail-Over Configuration Procedure Overview 49
Step 1: Setting Up the Fail-Over Connection on the First File Manager 50
Step 2: Setting Up the Fail-Over Connection on the Second File Manager 51
Step 3: Validating the Connections for File Manager Fail-Over . . . 51
Step 4: Starting the First and Second File Managers 52
Setting Up E-mail Error Notification 52
Configuring the E-mail Error Notification Service 53

Setting Up E-mail Error Notification Contacts 54

Chapter 4 **Managing the Drive Hardware** 55

Creating a New Data Drive Set 56

Creating a Data Drive Set Automatically 56

Creating a Data Drive Set Manually 57

Creating a Data Drive Set from Raw Drives 57

Creating Spare Data Drives from Raw Drives 58

Adding Storage to Your Environment 58

Adding Active Data Drives to a Data Drive Set 60

Adding Drives That Were Data Drives in Another Data Drive Set 60

Adding Drives That Were Previously Used with Another Application . . . 61

Creating Data Drives from Raw Drives 61

Removing Drives from Your Environment 62

Removing Active Data Drives from a Data Drive Set 63

Physically Removing Storage from Your Environment 64

Setting Drive Mode Pages 65

Deleting a Data Drive Set 65

Rebuilding a Data Drive Set 66

Bringing the Data Drive Set Online and Taking the Data Drive Set Offline . . 67

Bringing the Data Drive Set Online 67

Taking the Data Drive Set Offline 67

Chapter 5 **Administration Tool** 69

Understanding the Administration Tool User Interface 70

User Interface Management 70

Message Area 71

List Area 71

Window Buttons 71

User Interface Window Descriptions 71

Getting Help with the Administration Tool 72

Opening the Administration Tool 72
Before Performing Administrative Functions 72
Logging In to the Administration Tool 73
Administration Tool Preferences Window 73
Setting Administration Tool Preferences 74
Preference Tabs 74
Undoing or Canceling Preference Changes 75
Saving Preference Changes 75
Exporting and Importing Preferences 76
Setting the Administration Password 77
Setting User Account Preferences 78
Setting Workspace Preferences 79
Setting Workspace and Monitor Graph Bar Colors 80
Setting Warning Preferences 81
Setting Logo Preferences 82
Reestablishing a Connection to the File Manager 83
Chapter 6 **Managing Allocation Groups** 85
The Allocation Group Management Window 85
Allocation Group Usage Guidelines 86
Creating Allocation Groups 87
Adding Drives to Allocation Groups 89
Removing Drives from Allocation Groups 90
Identifying Drives 92
Renaming Allocation Groups 93
Deleting Allocation Groups 94
Chapter 7 **Managing Workspaces** 95
The Workspace Management Window 96
Workspace List 96
Reading the Workspace List 97

Changing the Workspace List Graph Display 98
Creating Workspaces 99
Duplicating Workspaces 100
Adjusting Workspace Size 101
Renaming Workspaces 103
Deleting Workspaces 103
Protecting Workspaces 104
Workspace Protection Recommendations 104
Capacity of Odd Number of Drives 106
Enabling Protection of New Files Only 106
Disabling Protection of New Files Only 107
Synchronizing All Files 107
Optimizing Workspaces 108
Moving Workspaces 109
Collecting Workspace Statistics 110
Chapter 8 **Managing User Accounts and Access Privileges** 113
The User Management Window 114
Creating User Accounts 114
Number of Users Versus Licensed Client Seats 116
Configuring User Accounts and Permissions 116
Example 1 – Standalone Workgroup Using Local User Accounts 117
Example 2 – Standalone Workgroup Using Local Groups 118
Example 3 – Network Workgroup Using Domain User Accounts 120
Example 4 – Network Workgroup Using Domain Groups 121
Duplicating User Accounts 122
Modifying User Accounts 124
Deleting User Accounts 125
Disabling Guest Accounts 125
Workspace Access Privileges 126
Changing Workspace Access Privileges 127

Chapter 9 **Monitoring System Usage and Messages** 129
The Connection Monitor Window 129
Changing the Monitor List Graph Display 130
The Log File 130
Viewing and Managing the Log File 131
Appendix A **Managing Drive Problems** 133
Overview 134
Identifying Bad Drives 134
Using the Disk Error Analyzer 135
Using the MEDIArray ZX Viewer 136
Selecting Events to View 136
Filtering Events 137
Detecting Slow or Failed Drives 138
Replacing the Data Drive Set 139
How Online Drive Recovery Works 140
Recovering and Replacing a Drive 140
Appendix B **Advanced Support Tools** 145
The Server Log Viewer 145
The Text Console 146
The NtStatDump Tool 146
The RecoverDisks Tool 146
The Avid Unity Profiler Tool 147
Appendix C **Using the Text Console for Remote Administration** 149
Starting the Text Console 149
Using the Text Console 150
Command Categories 150
The User Command Category 152
The Workspace Command Category 152
The On/Offline Command Category 153

The Disk Command Category 154
The Stats Command Category 154

Appendix D **International Character Support** 155
European Languages 156
Asian Languages 156
Invalid Characters 157
Unsupported Characters 158
Normalization 158

Index 159

Illustrations

Standalone User Accounts 118
Standalone User Accounts and Groups 119
Network User Accounts 121
Network User Accounts and Groups 122
MEDIArray ZX Event Viewer Window 136
Filter Events Dialog Box 137

Tables

LANserver EX Directories and Files 24
MediaNetwork File Manager Directories and Files 24
File Manager Recommended IP Addresses 49
Preference Window Tabs 74
Preference File Locations 76
Workspace Access Levels 126
Command Categories 151
User Subcommands 152
Workspace Subcommands 153
On/Offline Subcommands 153
Stats Subcommand 154

Using This Guide

Congratulations on your purchase of an high-performance distributed file system that contains high-capacity shared media storage for.

This document describes the features for all MediaNetwork environments. Therefore, your system might not contain certain features that are covered in the documentation.

This management guide is intended for system administrators responsible for the setup and day-to-day management of a system. You should have a basic understanding of how to use and manage Windows® 2000, Windows XP, and Mac OS® X systems, and should be familiar with the basic concepts described in the *System Overview.*

Symbols and Conventions

Avid documentation uses the following symbols and conventions:

Symbol or Convention	Meaning or Action
	A note provides important related information, reminders, recommendations, and strong suggestions.
	A caution means that a specific action you take could cause harm to your computer or cause you to lose data.
	A warning describes an action that could cause you physical harm. Follow the guidelines in this document or on the unit itself when handling electrical equipment.
>	This symbol indicates menu commands (and subcommands) in the order you select them. For example, File > Import means to open the File menu and then select the Import command.
▶	This symbol indicates a single-step procedure. Multiple arrows in a list indicate that you perform one of the actions listed.
⌘	This symbol represents the Apple or Command key. Press and hold the Command key and another key to perform a keyboard shortcut.
Margin tips	In the margin, you will find tips that help you perform tasks more easily and efficiently.
(Windows), (Windows only), (Macintosh), or (Macintosh only)	This text indicates that the information applies only to the specified operating system, either Windows XP or Macintosh OS X.
Italic font	Italic font is used to emphasize certain words and to indicate variables.
`Courier Bold font`	Courier Bold font identifies text that you type.
Ctrl+*key* or *mouse action* ⌘+*key* or *mouse action*	Press and hold the first key while you press the last key or perform the mouse action. For example, ⌘+Option+C or Ctrl+drag.

If You Need Help

If you are having trouble using the system:

1. Retry the action, carefully following the instructions given for that task in this guide. It is especially important to check each step of your workflow.
2. Check for the latest information that might have become available *after* the documentation was published in one of two locations:
   - If release notes are available, they ship with your application.
   - If ReadMe files are available, they are supplied in your Avid application folder. ReadMe files are also available from Help.

Release notes and ReadMe files are also available on the Avid Knowledge Base.

3. Check the documentation that came with your Avid application or your hardware for maintenance or hardware-related issues.
4. Visit the online Knowledge Base at www.avid.com/onlinesupport. Online services are available 24 hours per day, 7 days per week. Search this online Knowledge Base to find answers, to view error messages, to access troubleshooting tips, to download updates, and to read/join online message-board discussions.
5. For Technical Support, please call 800-800-AVID (800-800-2843).

   For Broadcast On-Air Sites and Call Letter Stations, call 800-NEWSDNG (800-639-7364).

Related Information

The following documents located on the Documentation CD-ROM provide more information about configuring and managing your work environment:

- *Avid Unity MediaNetwork Site Preparation Guide*
- *Avid Unity MediaNetwork File Manager Setup Guide*
- *Avid Unity MediaNetwork Release Notes*
- *Avid Unity MediaNetwork Upgrade Notes*
- *Avid Unity MediaNetwork System Overview*
- *Avid Unity MediaNetwork Macintosh Fibre Channel Client Setup Guide*
- *MediaNetwork Macintosh Fibre Channel Client Quick Start Card*
- *Avid Unity MediaNetwork Windows Fibre Channel Client Setup Guide*
- *MediaNetwork Windows Fibre Channel Client Quick Start Card*
- *Avid Unity MediaNetwork Macintosh Ethernet Client Setup Guide*
- *MediaNetwork Macintosh Ethernet Client Quick Start Card*
- *Avid Unity MediaNetwork Windows Ethernet Client Setup Guide*
- *MediaNetwork Windows Ethernet Client Quick Start Card*
- *Avid Unity MediaNetwork PortServer Setup Guide*
- *Avid Unity MediaNetwork 3.6 Supported Configurations*
- *Avid Unity MediaNetwork File Manager Failover Installation Notes*
- *Avid Unity LANserver EX Setup Guide*
- *Avid Unity LANserver Upgrade Notes*
- *Avid Unity LANserver Release Notes*

For the latest product information, visit the online Knowledge Base at www.avid.com/onlinesupport.

How to Order Documentation

To order additional copies of this documentation from within the United States, call Avid Sales at 800-949-AVID (800-949-2843). If you are placing an order from outside the United States, contact your local Avid representative.

Avid Educational Services

For information on courses/schedules, training centers, certifications, courseware, and books, please visit www.avid.com/training or call Avid Sales at 800-949-AVID (800-949-2843).

Chapter 1
MediaNetwork Management Overview

MediaNetwork allows you to centrally manage very large amounts of storage that multiple clients can access to share video, audio, and effects media in an intuitive, collaborative environment.

The MEDIArray ZX storage array and theMEDIArray storage are functionaly the same. The term MEDIArray ZX is used throughout this manual and refers to both storage arrays.

This chapter provides an overview of the tasks you need to perform, the configuration factors you need to consider, and the tools needed to manage your workgroup.

This chapter discusses:

- Management Tasks and Overall Considerations
- Management Tools
- Configuring a Workgroup

Management Tasks and Overall Considerations

As an administrator, you are responsible for:

- **Initial setup and configuration of the workgroup** — You must configure the data drive set, one or more allocation groups, workspaces, and user accounts.
- **Day-to-day administration** — You probably need to reconfigure MediaNetwork to accommodate new users and evolving projects.

  MediaNetwork also provides comprehensive monitoring functionality that allows you to check total MediaNetwork activity as well as that of each connected client.
- **Troubleshooting** — When problems occur with the storage hardware, the File Manager, or a client, you need to diagnose the problem and, if possible, fix it. MediaNetwork provides easy-to-understand error, warning, and informational messages that inform you of problems as well as tools that help you diagnose and fix problems.

How you answer the following strategic questions determines your priorities when making configuration decisions and trade-offs (possibly affecting several aspects of your configuration).

- What is your site type?

  In-house and rental editing suites probably require very different administration requirements, particularly in terms of workspace access restrictions and how often you need to reconfigure workspaces and users. For more information on managing workspaces, see Chapter 7.
- Does your workgroup include dual-stream uncompressed clients?

  If so, you will need to set up special hardware and allocation group configurations. For more information on managing allocation groups, see Chapter 6.
- How large is your data drive set and does it include more than one drive type?

  If your data drive set is very large or has different drive types, you probably need to assign your data drives to more than one allocation group. For more information on managing the drive hardware, see Chapter 4.

- Will your client users be working on individual projects with their own media or will they be collaborating on team projects that use the same source media?

  These factors affect how you should allocate workspaces and user accounts. For more information on managing allocation groups, see Chapter 6.

- Which is more important at your site: the integrity and speed at which your media can be recovered in the event of hardware failure or maximizing available storage space?

  Avid recommends that you always use protection to avoid data loss. However, These factors determine whether you will want to protect your workspaces.

- Is security more important than ease of access at your site?

  Individual password user accounts combined with tightly controlled workspace access privileges provide the most security at the cost of restricting user flexibility. For more information on managing user accounts and access privileges, see Chapter 8.

Directory and File Limits

The following section provides directory and file limits for LANshare LANserver EX and MediaNetwork environments.

LANserver EX

On a LANserver EX, MediaNetwork Release 3.6 supports 10,000 directories and up to 250,000 files for LANshare streaming. You can also increase the number of directories on the file system to more than 10,000. Doing so, however, decreases the total number of files you can store, by 32,000, each time you cross a 10,000-directory boundary. MediaNetwork warns you if you exceed either the directory or the file limits.

Table “LANserver EX Directories and Files” on page 24 shows the dynamic relationship between the number of directories you have and the number of files you can store on the 2-GB LANshare LANserver EX.

LANserver EX Directories and Files

Directories	2-GB LANshare LANserver EX Maximum Number of Files
10,000	250,000
20,000	218,000
30,000	186,000

MediaNetwork

MediaNetwork Release 3.6 only supports 3-GB File Manager that can have up to 500,000 files. You can also increase the number of directories on the file system to more than 10,000. Doing so, however, decreases the total number of files you can store, by 32,000, each time you cross a 10,000-directory boundary. MediaNetwork warns you if you exceed either the directory or the file limits.

The metadata for 500,000 files can use as many as 15 data drives on your drive set. If the metadata expands into a MEDIArray ZX drive enclosure that is set up as a single-user allocation group for 1:1 video, it could severely impact the performance of finishing clients.

Table “MediaNetwork File Manager Directories and Files” shows the dynamic relationship between the number of directories you have and the number of files you can store on 3-GB File Managers.

MediaNetwork File Manager Directories and Files

Directories	3-GB File Manager Maximum Number of Files
10,000	500,000
20,000	468,000
30,000	436,000

MediaNetwork File Manager Directories and Files (Continued)

Directories	3-GB File Manager Maximum Number of Files
40,000	404,000
50,000	372,000
60,000	340,000

Notes on Dynamic Directory and File Limits

Large numbers of directories and files on the File Manager can effect the performance of the MediaNetwork workgroup management tools.

- As you reach the upper limits for the number of directories and files, the tools used to manage the MediaNetwork workgroup (the Monitor Tool, the Setup Manager, and the Administration Tool) run slowly. They run at a lower system priority than the File Manager software and require more time to manage metadata.
- While the dynamic directory and file limits are calculated correctly by MediaNetwork Release 3.6, the dynamic limits might not be shown correctly in the Setup Manager or the Administration Tool. This has no effect on performance; it strictly affects the display of limit information.
- Create a user account with appropriate access privileges for each client.

  This strategy offers *moderate security and convenience*, when users work at clients that provide access to the workspaces they need to use.

Passwords are optional. If you want to provide users with access to appropriate workspaces and security is not an issue (that is, you trust users not to use other users accounts), you can use any of the previously described strategies without assigning passwords for user accounts.

For more information about managing user accounts and access privileges, see Chapter 8.

Management Tools

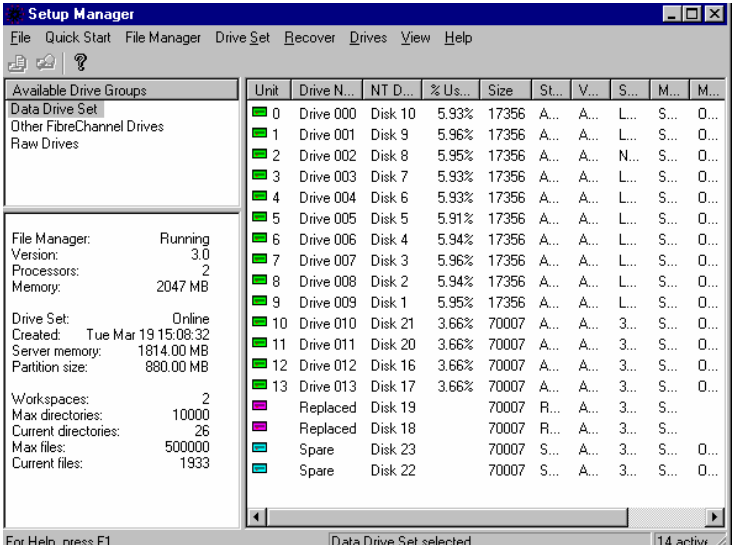
MediaNetwork provides several tools that allow you to configure and perform day-to-day management. For more information on using these management tools, see the following sections:

- Setup Manager
- Administration Tool
- Monitor Tool

Setup Manager

You use the Setup Manager to perform storage hardware management tasks, including:

- Creating and managing a data drive set
- Specifying drives as data drives or spare drives
- Starting and stopping the File Manager service to perform system maintenance
- Adding drives to and removing drives from the data drive set
- Performing drive maintenance and error recovery operations


Setup Manager
File Quick Start File Manager Drive Set Recover Drives View Help
Available Drive Groups
Data Drive Set
Other FibreChannel Drives
Raw Drives
File Manager: Running
Version: 3.0
Processors: 2
Memory: 2047 MB
Drive Set: Online
Created: Tue Mar 19 15:08:32
Server memory: 1814.00 MB
Partition size: 880.00 MB
Workspaces: 2
Max directories: 10000
Current directories: 26
Max files: 500000
Current files: 1933
Unit Drive N... NT D... % Us... Size St... V... S... M... M...
0 Drive 000 Disk 10 5.93% 17356 A... A... L... S... O...
1 Drive 001 Disk 9 5.96% 17356 A... A... L... S... O...
2 Drive 002 Disk 8 5.95% 17356 A... A... N... S... O...
3 Drive 003 Disk 7 5.93% 17356 A... A... L... S... O...
4 Drive 004 Disk 6 5.93% 17356 A... A... L... S... O...
5 Drive 005 Disk 5 5.91% 17356 A... A... L... S... O...
6 Drive 006 Disk 4 5.94% 17356 A... A... L... S... O...
7 Drive 007 Disk 3 5.96% 17356 A... A... L... S... O...
8 Drive 008 Disk 2 5.94% 17356 A... A... L... S... O...
9 Drive 009 Disk 1 5.95% 17356 A... A... L... S... O...
10 Drive 010 Disk 21 3.66% 70007 A... A... 3... S... O...
11 Drive 011 Disk 20 3.66% 70007 A... A... 3... S... O...
12 Drive 012 Disk 16 3.66% 70007 A... A... 3... S... O...
13 Drive 013 Disk 17 3.66% 70007 A... A... 3... S... O...
Replaced Disk 19 70007 R... A... 3... S...
Replaced Disk 18 70007 R... A... 3... S...
Spare Disk 23 70007 S... A... 3... S... O...
Spare Disk 22 70007 S... A... 3... S... O...
For Help, press F1
Data Drive Set selected
14 activ

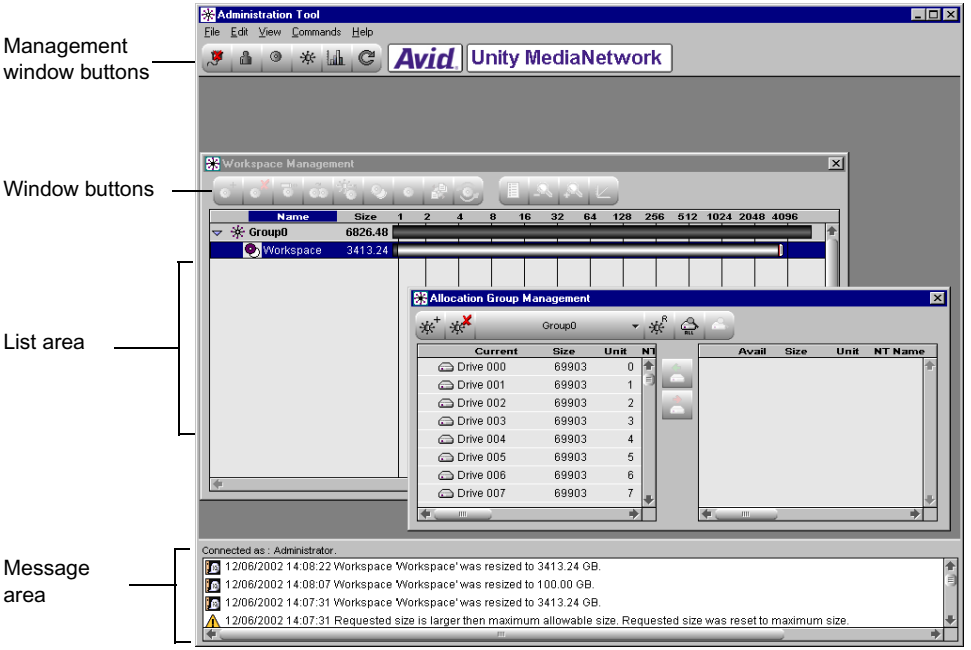
The Setup Manager runs only from the File Manager. For a detailed description of the Setup Manager, see Chapter 2.

Administration Tool

The Administration Tool is the primary tool for the initial setup and administration of allocation groups, workspaces, users, and client connection privileges. It also allows you to monitor storage activity. Use the Administration Tool to:

- View, create, rename, and delete allocation groups.
- Add drives to allocation groups.
- View, create, rename, adjust the size of, protect, and delete workspaces.
- View, create, edit, and delete user accounts (with optional passwords) and assign user access privileges.
- Monitor system usage, including total system bandwidth use, number of active MediaNetwork clients or media servers, and bandwidth consumption per client or server.
- View a list of error, warning, and informational messages.
- Open multiple windows at the same time.

The Administration Tool uses many system resources while running. Avid suggests that, if possible, after initial setup you run the Administration Tool from a MediaNetwork client attached to the same Fibre Channel switch as the File Manager. However, if you must run the Administration Tool from the File Manager, never leave it running or minimized. Launch the Administration Tool, perform the administration function needed and quit the Administration Tool.


Management window buttons
Window buttons
List area
Message area
Administration Tool
File Edit View Commands Help
Avid Unity MediaNetwork
Workspace Management
Name Size 1 2 4 8 16 32 64 128 256 512 1024 2048 4096
Group0 6826.48
Workspace 3413.24
Allocation Group Management
Group0
Current Size Unit NT
Drive 000 69903 0
Drive 001 69903 1
Drive 002 69903 2
Drive 003 69903 3
Drive 004 69903 4
Drive 005 69903 5
Drive 006 69903 6
Drive 007 69903 7
Avail Size Unit NT Name
Connected as : Administrator.
12/06/2002 14:08:22 Workspace 'Workspace' was resized to 3413.24 GB.
12/06/2002 14:08:07 Workspace 'Workspace' was resized to 100.00 GB.
12/06/2002 14:07:31 Workspace 'Workspace' was resized to 3413.24 GB.
12/06/2002 14:07:31 Requested size is larger then maximum allowable size. Requested size was reset to maximum size.

You can open the Administration Tool from the File Manager or from any MediaNetwork client or media server, where it communicates with the File Manager through the Fibre Channel network. For a detailed description of the Administration Tool, see Chapter 5.

Monitor Tool

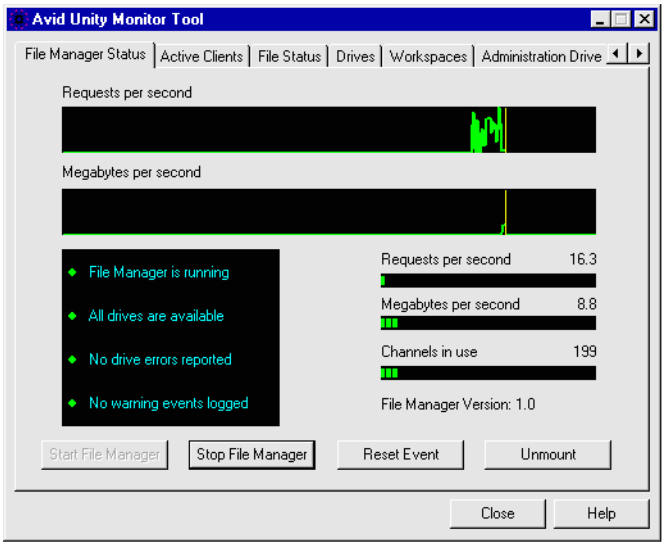
The Monitor Tool provides low-level, performance-monitoring functions. Using the Monitor Tool, you can view:

- The current status of each drive, including name, number, available storage, percentage of storage used, and the number of affected files, if any
- A list of the workspaces
- The status of communications between the File Manager and the MediaNetwork clients or media servers
- Information on the metadata maintained by the File Manager
- File Manager memory usage

- Counts and service times for MediaNetwork client or for Media Server requests

You can also use the Monitor Tool to start and stop the File Manager service and to set advanced MediaNetwork features, such as clearing the administrator's password.

When the Monitor Tool opens, File Manager status information appears.



Getting Help with the Monitor Tool

The Help system provides procedures and reference information for all features of the Monitor Tool.

The following sections provide a high-level overview of the configuration implications of your answers to these questions.

Configuring a Workgroup

Your primary responsibility as an administrator is to ensure that MediaNetwork is configured properly.

This section provides a quick look at the tasks you must perform to establish a workgroup, and includes:

- Creating a Data Drive Set
- Creating an Allocation Group
- Creating New Workspaces
- Creating User Accounts
- Protecting Data

Creating a Data Drive Set

The data drive set defines the drives that the MediaNetwork software can use to store data. Each MediaNetwork workgroup can have only one data drive set.

To create a data drive set:

1. From the File Manager desktop, click the Start button, point to Programs, point to Avid Unity, and then select Setup Manager.
2. Click Raw Drives in the left section of the window.

You can create your data drive set with no spare drives or with two spare drives. Having spare drives allows you to perform online drive repairs if a drive fails. If you are not running the optional UnityRAID™ protection software, you should consider having spare drives.

3. Select the drives you want in the data drive set in the right section of the window.
4. Choose Create Data Drive Set from the Drive Set menu.
5. Click OK.

   The data drive set is created.

6. If you did not use all of the drives in the data drive set, select the remaining drives in the right section of the window, and choose Make Drive Spare from the Drives menu.
7. Click Data Drive Set in the left section of the window.

   All of the drives should move from Raw Drives to Data Drive Set.
8. Quit the Setup Manager.

For more information about data drive sets, see Chapter 4.

Creating an Allocation Group

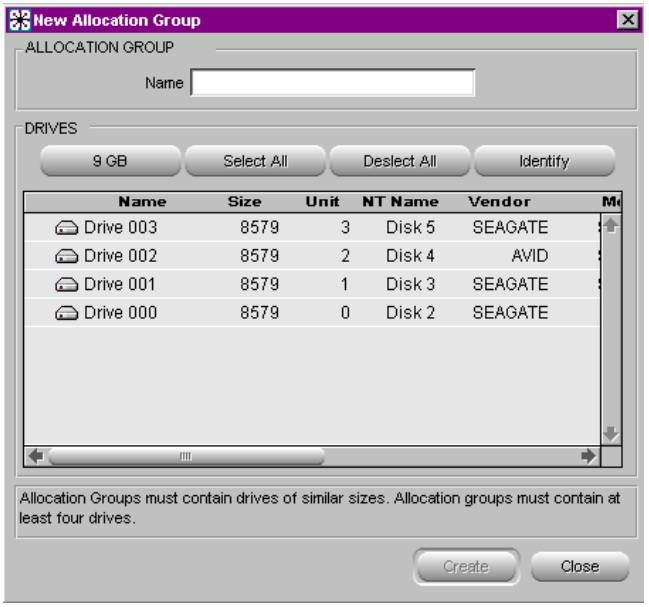
An allocation group defines how the drives in a data drive set are partitioned to store data. If you have drives of different sizes, they *must* be in separate allocation groups.

To create a new allocation group:

1. Open the Administration Tool from the File Manager console, from any Windows client, or from a Macintosh client.

2. Click the Allocation Group Management button.
3. Click the Create New Allocation Group button.

   The New Allocation Group dialog box opens.



4. Type a name for the allocation group.
5. Select the appropriate GB (gigabyte) size from the Drive button.
6. Select all the drives you want to assign to the new allocation group (four-drive minimum) by clicking them.
7. Click the Create button to create a new allocation group containing all the selected drives.

   A dialog box opens and prompts you to confirm that you want to create a new allocation group.

   The new allocation group appears in the allocation group list.
8. Leave the Administration Tool running.

For more information about allocation groups, see Chapter 6.

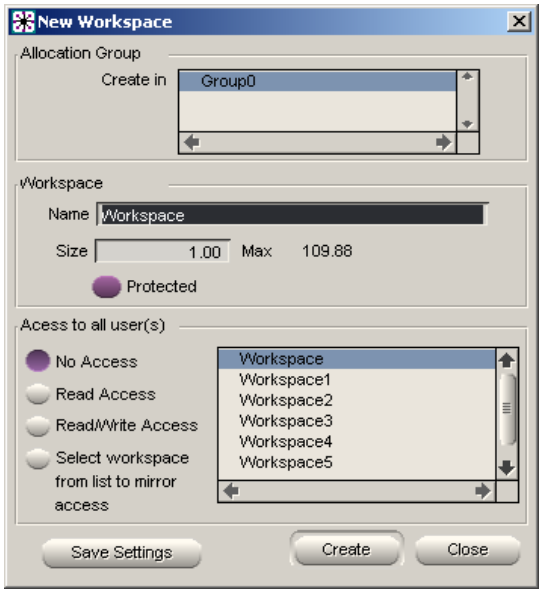
Creating New Workspaces

Workspaces are locations to store and segregate data. You can allow users to access some or all of the workspaces, and assign permissions for how each user can access the data in a workspace.

To create a new workspace:

1. Click the Create New Workspace button in the Workspace Management window.

   The New Workspace window opens.



2. Select the allocation group on which you want to create the workspace.
3. Type a name for the workspace.
4. Type a size for the workspace. The maximum size allowed is listed next to the text box.
5. Click to select Protected or Unprotected.
6. Set the User Access privileges.
7. Click Create.
8. Leave the Administration Tool running.

For more information about workspaces, see Chapter 7.

You can create as many workspaces as you need to support different projects. Due to the physical restrictions of drive letters, Avid Unity can only mount a maximum of 21 workspaces for Ethernet client use.

Creating User Accounts

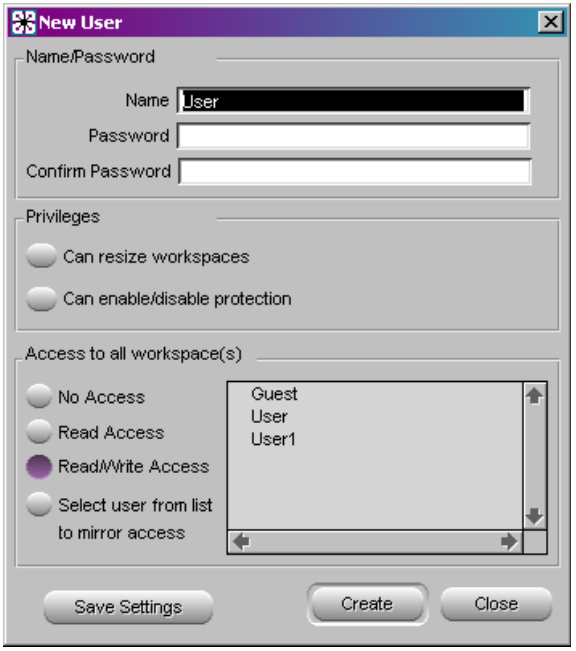
User accounts allow individual users, or groups of users, access to the workgroup. These accounts allow users to mount or map MediaNetwork workspaces on their Avid workstations.

To create a user account:

1. From the Administration Tool, click the User Management button.
2. Do one of the following:

- Click the New User button.
- Select New User from the Commands menu.

The New User dialog box opens.



3. Type a user name
4. Type a password, then type it again to confirm it.
5. Select privileges and workspace access rights.

6. (Option) Click Save Settings if you want this to be your default user account.
7. Click Create.
8. Close the Administration Tool.

For more information about user accounts, see Chapter 8.

Protecting Data

Protection is a feature that offers high levels of data integrity by ensuring that two copies of media data are written onto different physical drives to avoid data loss in the event of drive failure. This allows workspaces that are protected to be repaired very quickly with no data loss upon drive failure.

The disadvantage is that protected workspaces use twice as much space as unprotected workspaces. However, because of the data protection and recovery speed that protection offers, Avid recommends that you *always* protect your workspaces. New workspaces are protected by default unless you specify otherwise in your preferences.

For more information about workspaces, see Chapter 7.

Select one of the following strategies, depending on your security requirements.

Chapter 2
Setup Manager

This chapter introduces the Setup Manager and describes its basic operations.

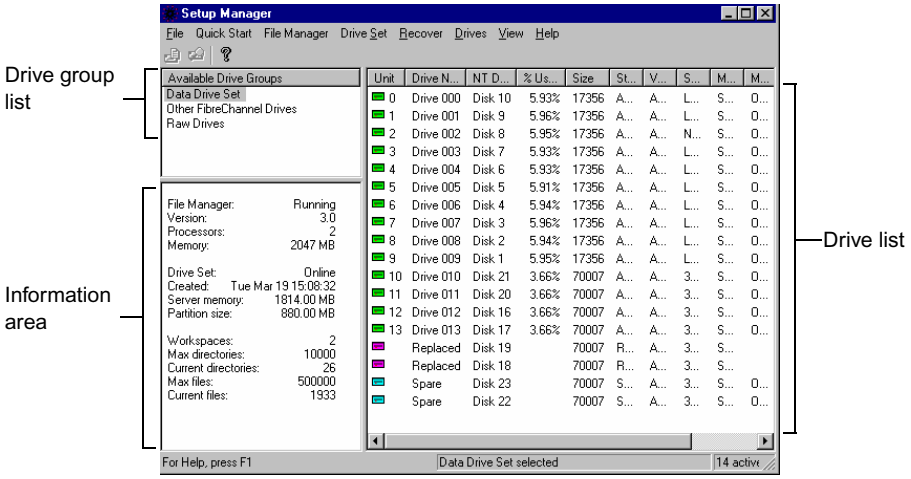
To find out how to use the Setup Manager to set general and File Manager fail-over parameters, see Chapter 3. For detailed descriptions of how to use the Setup Manager to manage and troubleshoot your drive hardware, see Chapter 4 and Appendix A.

This chapter discusses:

- Setup Manager Overview
- Starting the Setup Manager
- Using Setup Manager in a Fail-Over Configuration
- Starting and Stopping the File Manager
- Online Drive Recovery
- AutoRecovery for Failed Drives

Setup Manager Overview

You use the Setup Manager to set general and File Manager fail-over parameters, to configure and manage your data drive set, and to start and stop the File Manager service. You also use the Setup Manager to add drives and to perform drive maintenance and error recovery operations.


Drive group list
Information area
Drive list
Setup Manager
File Quick Start File Manager Drive Set Recover Drives View Help
Available Drive Groups
Data Drive Set
Other FibreChannel Drives
Raw Drives
File Manager: Running
Version: 3.0
Processors: 2
Memory: 2047 MB
Drive Set: Online
Created: Tue Mar 19 15:08:32
Server memory: 1814.00 MB
Partition size: 880.00 MB
Workspaces: 2
Max directories: 10000
Current directories: 26
Max files: 500000
Current files: 1933
Unit Drive N... NT D... % Us... Size St... V... S... M... M...
0 Drive 000 Disk 10 5.93% 17356 A... A... L... S... O...
1 Drive 001 Disk 9 5.96% 17356 A... A... L... S... O...
2 Drive 002 Disk 8 5.95% 17356 A... A... N... S... O...
3 Drive 003 Disk 7 5.93% 17356 A... A... L... S... O...
4 Drive 004 Disk 6 5.93% 17356 A... A... L... S... O...
5 Drive 005 Disk 5 5.91% 17356 A... A... L... S... O...
6 Drive 006 Disk 4 5.94% 17356 A... A... L... S... O...
7 Drive 007 Disk 3 5.96% 17356 A... A... L... S... O...
8 Drive 008 Disk 2 5.94% 17356 A... A... L... S... O...
9 Drive 009 Disk 1 5.95% 17356 A... A... L... S... O...
10 Drive 010 Disk 21 3.66% 70007 A... A... 3... S... O...
11 Drive 011 Disk 20 3.66% 70007 A... A... 3... S... O...
12 Drive 012 Disk 16 3.66% 70007 A... A... 3... S... O...
13 Drive 013 Disk 17 3.66% 70007 A... A... 3... S... O...
Replaced Disk 19 70007 R... A... 3... S...
Replaced Disk 18 70007 R... A... 3... S...
Spare Disk 23 70007 S... A... 3... S... O...
Spare Disk 22 70007 S... A... 3... S... O...
For Help, press F1
Data Drive Set selected
14 activ

The Setup Manager divides all drives into one of three groups, reflecting their current usage allocations and state. The three *drive groups* are:

Drive Group	Description
Data Drive Set	Shows active data drives and spare drives in the data drive set.
Other FibreChannel Drives	Shows drives that are not appropriately initialized for use in an allocation group. These drives can be used for other purposes in your environment.
Raw Drives	Shows raw drives that are marked for use but are not allocated for a specific purpose. Raw drives cannot be used until allocated.

When you select the drive group that you want to view in the *drive group list*, all the drives in that group then appear in the drive list. The drive list displays the name, size, status, unit number, and other technical information about each drive. You might need to click the right scroll arrow to see all the information.

You access all Setup Manager functions from the various menus in the menu bar.

The information area provides information about the data drive set and the status of the File Manager.

Getting Help with the Setup Manager

The Help system provides procedures and reference information for all features of the Setup Manager.

Starting the Setup Manager

To start the Setup Manager:

- From the File Manager desktop, click the Start button, point to Programs, point to AvidUnity, and then select Setup Manager.

Until you initialize the e-mail error notification service (see "Setting Up E-mail Error Notification" on page 52), the Setup Manager will open the E-mail Configuration dialog box. The open dialog box asks you whether you want it to appear each time Setup Manager starts. Click OK to stop the dialog box from appearing again.

Until you configure your data drive set, the Setup Manager information area will contain a message box warning you that it is not connected to the File Manager or that the File Manager is not running. This is normal; the File Manager does not come online until you create a data drive set.

Using Setup Manager in a Fail-Over Configuration

If you have a fail-over configuration with redundant File Managers, one File Manager assumes the active role and the other the passive role when the system starts.

Fail-Over Configuration Guidelines

In fail-over configurations, you should *always*:

- Stop the passive File Manager before performing any hardware management tasks that involve stopping the File Manager service (such as adding drives to the data drive set or performing a software upgrade).
- Use the Setup Manager on the *active* File Manager to perform hardware management tasks.

Determining the Active File Manager

To determine the active File Manager:

1. On both File Managers, click Start, point to Programs, point to AvidUnity, and then select Setup Manager.

   The Setup Manager opens.

2. Check the File Manager status in the information area of the Setup Manager.

   One File Manager should indicate **Running**; this is the *active* File Manager. The other File Manager should indicate **Standby Mode**; this is the *passive* File Manager.

Starting and Stopping the File Manager

The File Manager software runs as a Windows service that starts automatically whenever the server is online. However, various maintenance and administration functions require that you stop the File Manager and then restart it. Therefore, you can access these functions from the Setup Manager.

Starting the File Manager

To restart the File Manager after it has been manually stopped or has failed for any reason:

- Choose Start File Manager from the Setup Manager's File Manager menu.

Stopping the File Manager

Maintaining metadata integrity is very important to ensure you do not lose any data files. Avid recommends you use the following shutdown procedure to avoid problems with metadata integrity.

In a fail-over configuration, you *must* stop the standby File Manager before stopping the active File Manager whenever you perform operations that require you to stop the File Manager. Otherwise, the active File Manager will fail over to the standby File Manager as the active File Manager stops.

To stop the File Manager software:

1. Click the Start button, point to Avid Unity, and then select Monitor Tool.

   The Monitor Tool window opens.

2. Click the Stop File Manager button.

   The AvidMon window opens asking if you are sure you want to stop the File Manager.

3. Click OK.

   The File Manager Shutting Down dialog box opens stating that it is saving multiple copies of the metadata.

   - Wait for the process to finish, the dialog box to close, and the lights in the Monitor Tool to change to yellow.
   - Do not add or change any hardware in the MediaNetwork workgroup until after the File Manager software stops successfully.

4. Close the Monitor Tool.
5. Make sure the File Manager software has successfully written a local copy of the metadata file:

   - Open the partition where Avid Unity is installed (typically, D:\Program Files\ Avid Technology\AvidUnity\).
   - Find the *PartitionDump.bin* file with a modification date from when you stopped the File Manager (if upgrading or modifying the system in any way, copy the *PartitionDump.bin* and the *RecoveryInfo.dat* to another partition before you continue).

6. If the *PartitionDump.bin* file exists with the correct time and date, continue with Shutting Down the Windows 2000 System.

Shutting Down the Windows Operating System

To shut down the Windows operating system:

1. Click the Start button and then select Shut Down.

   The Shut Down Windows dialog box opens.

2. Click “Shut down this computer?”
3. The File Manager shuts down.

Logging Out and Stopping the File Manager Changes

To log out from the File Manager and leave the File Manager software running:

1. Click the Start button and then select Shut Down.

   The Shut Down Windows dialog box opens.

2. Select “Logoff as Administrator” and click Yes.

Stopping the File Manager

If you stop the File Manager, no clients will be able to access MediaNetwork workspaces.

To stop the File Manager software and shutdown the system:

1. Click the Start button, point to Programs, point to Avid Unity, and select Monitor Tool.

   The Monitor Tool opens.

2. Click the Stop File Manager button.

   A message appears asking if you are sure you want to stop the File Manager software.

3. Click OK.

   A dialog box opens indicating that the File Manager is stopping and saving metadata.

4. Click the Start button and then select Shut Down.

   The Shut Down Windows dialog box opens.

5. Select “Shut down the computer?”
6. The File Manager shuts down.

Online Drive Recovery

If drive problems occur, a “Drive Error Analysis Needed” message will appear in the File Manager Status tab of the Monitor Tool. The online drive recovery feature is designed to recover a drive while the system remains online. This significantly improves workflow because clients no longer need to unmount workspaces during a drive repair. To perform an online drive repair, see Appendix A.

There are several issues to consider:

- Only *connected clients* can continue working during online repair.
- Clients are denied write access at some point during online repair.

AutoRecovery for Failed Drives

The AutoRecovery for Failed Drives operation can detect a media error and automatically recover a drive. This operation helps you maintain a 7x24 work environment, and offers an alternative to using the Setup Manager to manually intervene and replace failed drives.

AutoRecovery requires that you use mirroring, and should never be viewed as a substitute for mirroring.

Considerations

System performance degrades during the AutoRecovery for Failed Drives operation. AutoRecovery is disabled by default. Leave it disabled if you need to maintain full capacity during specific hours, and manually perform repairs during lower traffic periods (for example, at 2:00 A.M.).

Before You Begin

You need to meet the following conditions before enabling AutoRecovery:

- Set up e-mail error notification: see “Setting Up E-mail Error Notification” on page 52.
- Have at least one spare MEDIArray II drive or MEDIArray ZX drive (for *each* size drive in your system) available to use as the replacement for the bad drive.

Enabling AutoRecovery for Failed Drives

To enable AutoRecovery for failed drives:

1. Click the Start button, point to Programs, point to Avid Unity, and then select Setup Manager.

   The Setup Manager window opens.

2. Choose Enable AutoRecovery from the Recover menu.

Avid does not recommend the use of the AutoRecovery feature unless you are do not need any type of drive performance. When AutoRecovery is set you could automatically start a recovery in the middle of a live broadcast and possible slow the performance down to an undesirable level.

Chapter 3

Configuring General, Fail-Over, and Remote Error Notification Parameters

You can use the Setup Manager to set general parameters, to configure File Manager fail-over, and to set up remote error notification by e-mail.

This chapter discusses:

- Configuring General Settings
- Configuring File Manager Fail-Over
- Setting Up E-mail Error Notification

Configuring General Settings

Inappropriate configuration of the settings described in this section could result in degraded system performance. Contact Avid Customer Support before attempting to change these settings. These configuration settings should also be set the same in the Fail-Over File Manager.

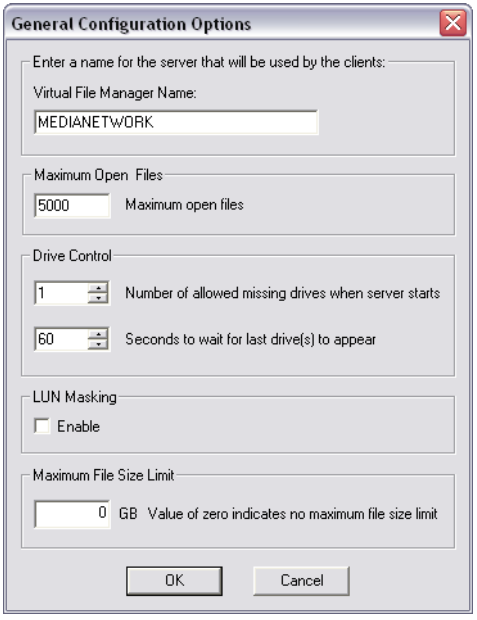
To configure general settings:

1. Click Start, point to Programs, point to Avid Unity, and then select Setup Manager.

   The Setup Manager opens.

2. Choose General Configuration from the File Menu.

   The General Configuration Options dialog box opens.



3. Type a name for the File Manager in the Virtual File Manager Name text box. Give the File Manager a name that is different from the Computer Name defined in the system's Network properties.

In a fail-over configuration, you must *specify the same virtual File Manager Name for both File Managers.*

4. Choose the maximum number of open files allowed by the system from the “Maximum open files” text box.

   The default is 5000 files for all memory systems including LANshare EX. If you are using the SR2200 system or the newer SR2400 system, the maximum number of open files for MediaNetwork systems is 80,000.

See “MEDIArray ZX Drive and File Counts Using the Windows 2000 Operating System” on page 48 for the maximum number of drives vs. the maximum number of files.

   In general, you should use the default number. For large and active systems, you can increase this figure as needed.

5. Choose the number of missing drives allowed when the File Manager starts from the “Number of allowed missing drives when the server starts” pop-up menu. If more drives than the number specified are missing from the data drive set, the File Manager will not start. Choosing a higher number allows the File Manager to start even if it cannot find the expected number of drives.

   The File Manager can function with one drive missing by default when all workspaces are protected. If more than one drive is missing or some workspaces are not protected, the system will report errors.

6. Choose the number of seconds the system waits for the last drives during startup from the “Seconds to wait for last drive(s) to appear” pop-up menu. A high number causes the File Manager to continue to search longer for drives during startup.

   This option allows the system to accommodate the various start times required for different drives on the system.

7. LUN Masking is enabled by default. LUN Masking slows the Registry Hive Growth problem when you have the following configuration:

   - Two Fibre channel controller boards
   - A looped, two switch configuration

   The software automatically detects if you have only one Fibre Channel controller and disables the LUN Masking function. Avid allows you to manually disable the LUN Masking function in case support or the system administrator deems it necessary.

8. Choose the Maximum file size limit. This defines the largest file size a client is able to create. Since MXF files can create very large file, this parameter was created to allow you to define the largest size if you need to do so. The default value, 0, defines no maximum file size value.
9. Click OK.

The system must be re-booted before the changes are effected.

MEDIArray ZX Drive and File Counts Using the Windows 2000 Operating System

A Unity MediaNetwork system using a Windows 2000 File Manager and only MEDIArray ZX storage can be configured to maximum of 96 drives. The maximum amount of files and folders available for a 96 drive system is 500,000 files and 10,000 folders.

However, as the amount of storage increases, the maximum number of files and folders decreases. Files and folders can be traded at a ratio of 3.2 to 1.

Configuring File Manager Fail-Over

If properly configured with a redundant File Manager, the system supports automatic fail-over to the passive File Manager when the active File Manager fails. Because there is communication between drive sets and there is polling over the Ethernet, any lack of response from the active File Manager indicates that it is offline and is not due to a failed connection between the two File Managers.

In a fail-over configuration, neither File Manager is assigned to a primary or backup role — the first system online becomes the active File Manager and the second system online becomes the passive File Manager. If both systems are online at the same time, the active role is negotiated arbitrarily between the two systems. For this reason, Avid recommends that you physically label and refer to your first and second File Managers as FM1 and FM2.

For information on installing a second File Manager and setting up the IP addresses, see the *Avid Unity MediaNetwork File Manager Setup Guide*.The following table lists the recommended IP addresses. If you use different addresses, be sure to note them and have them available before proceeding with the configuration.

File Manager Recommended IP Addresses

IP Address	Description
192.168.1.1[a]	Primary File Manager Ethernet Connector 1
192.168.2.1	Primary File Manager Ethernet Connector 2
192.168.3.1	Primary File Manager Ethernet NIC (Network Interface Card)
192.168.1.2	Fail-over File Manager Ethernet Connector 1
192.168.2.2	Fail-over File Manager Ethernet Connector 2
192.168.3.2	Fail-over File Manager Ethernet NIC

a. This is the default IP address to use for configuring the Fibre Channel switch initially. Change this IP address to comply with your specific IP addressing conventions when configuring the Fibre Channel switch for use in your network.

Fail-Over Configuration Procedure Overview

Configuring File Manager fail-over requires the following steps:

- “Step 1: Setting Up the Fail-Over Connection on the First File Manager” on page 50
- “Step 2: Setting Up the Fail-Over Connection on the Second File Manager” on page 51
- “Step 3: Validating the Connections for File Manager Fail-Over” on page 51
- “Step 4: Starting the First and Second File Managers” on page 52

Step 1: Setting Up the Fail-Over Connection on the First File Manager

To set up the fail-over connection on the first File Manager:

1. Click Start, point to Programs, point to Avid Unity, and then select Setup Manager.

   The Setup Manager window opens.

2. Stop the File Manager service by choosing Stop File Manager from the File Manager menu.

3. Choose File Manager Fail-Over Configuration from the File menu.

   The File Manager Fail-Over Configuration dialog box opens.

4. Make sure that the “Enable redundant operation” check box is selected.

5. Type a virtual server name in the Virtual Server Name text box. This name *must* be the same for both the first and second File Managers.

6. Leave the Monitor port set to 5000. If you have another application that uses port 5000, change the Monitor port to an available port number. This port number must be the same on both the first and second File Managers.

7. In the First network path area, choose the first built-in Ethernet adapter port from the Network Adapter pop-up menu.

8. Type **`192.168.1.1`** in the Primary File Manager Ethernet Connector 1 IP address in the Local Machine First path IP address text box.

9. Type **`192.168.1.2`** in the Fail-Over File Manager Ethernet Connector 1 IP address in the Remote Machine First path IP address text box.

10. In the Second network path area, choose the port of the Ethernet NIC from the Network Adapter pop-up menu.

11. Type **`192.168.2.1`** in the Primary File Manager Ethernet Connector 2 IP address in the Local Machine Second path IP address text box.

12. Type **`192.168.2.2`** in the Fail-Over File Manager Ethernet Connector 2 address in the Remote Machine Second path IP address text box.

13. Leave the Setup Manager and the File Manager Fail-Over Configuration dialog box open.

Step 2: Setting Up the Fail-Over Connection on the Second File Manager

To set up the fail-over connection on the second File Manager:

1. Stop the second File Manager.
2. Make sure that the "Enable redundant operation" check box is selected.
3. Type a virtual server name in the Virtual Server Name text box. This name *must* be the same for both the first and second File Managers.
4. Leave the Monitor port set to 5000. If you have another application that uses port 5000, change the Monitor port to an available port number. This port number must be the same for both the first and second File Managers.
5. In the First network path area, choose the second built-in Ethernet adapter from the Network Adapter pop-up menu.
6. Type **`192.168.1.2`** in the Fail-Over File Manager Ethernet Connector 1 IP address in the Local Machine First path IP address text box.
7. Type **`192.168.1.1`** in the Primary File Manager Ethernet Connector 1 IP address into the Remote Machine First path IP address text box.
8. In the Second network path area, choose the port of the Ethernet NIC from the Network Adapter pop-up menu.
9. Type **`192.168.2.2`** in the Fail-Over File Manager Ethernet Connector 2 IP address into the Local Machine Second path IP address text box.
10. Type **`192.168.2.1`** in the Primary File Manager Ethernet Connector 2 IP address into the Remote Machine Second path IP address text box.
11. Leave the Setup Manager and the File Manager Fail-Over Configuration dialog box open.

Step 3: Validating the Connections for File Manager Fail-Over

To validate the connections for File Manager fail-over:

1. Click the Validate Receive button on the first File Manager.

   The Validate Fail-Over Connections dialog box opens.

   Numbers in the Packets Received text boxes indicate the number of packets received from the first File Manager.
2. Click the Validate Send button on the second File Manager.

   The Validate Fail-Over Connections dialog box opens.

Numbers in the Successful Round Trips text boxes indicate successful communication with the second File Manager and a valid connection. The indicator box, under Waiting for response, is green.

If you have data traveling over only one of the fail-over network paths, you probably have a network configuration problem. Recheck your configuration.

3. Close the Setup Manager on both File Managers.

Step 4: Starting the First and Second File Managers

To start the first and second File Managers:

1. From the first File Manager, click Start, point to Programs, point to Avid Unity, and then select Monitor Tool.

   The Monitor Tool opens.

2. Click Start File Manager.
3. From the second File Manager, click Start, point to Programs, point to Avid Unity, and then select Monitor Tool.

   The Monitor Tool opens.

4. Click Start File Manager.

Setting Up E-mail Error Notification

You can configure MediaNetwork to notify you when problems occur. A Windows service will regularly poll the client log file (UnityClientLogs.txt) and, if any errors are logged, will send a concise summary of those errors to one or more e-mail accounts, will sound an audible alarm on the File Manager, or both.

If you subscribe to a text messaging service, you can configure the error notification service to send messages to your alphanumeric pager. To find out how to use e-mail to send a message to your pager, contact your paging service provider.

Configuring the E-mail Error Notification Service

To configure the e-mail error notification service:

1. Click Start, point to Programs, point to Avid Unity, and then select Setup Manager.

   The Setup Manager opens.

2. Choose E-mail Configuration from the File menu.

   The E-mail Configuration dialog box opens.

3. Configure the General parameters as follows:

   - **Enable E-mail** — Set this option to enable the e-mail error notification service.
   - **Poll Frequency** — Specify the frequency (by setting an interval in seconds) with which the error notification service checks for problems.
   - **Wait Period** — Specify the amount of time to pass between notification messages. Unless you specify a period, the system will send messages each time it polls for problems or errors.
   - **Enable Alarm** — Set this option to enable an audible alarm on the File Manager to warn you of any logged errors. When the alarm sounds, select the Turn Off Alarm button to stop the sound.
   - **SMTP** — Specify the IP address or host name of your SMTP server. If you are unsure of this address, contact your network administrator.
   - **Port** — Specify the port number of your SMTP server. If you are unsure of the port number, contact your network administrator. The default value (25) is appropriate in most instances.
   - **Return address** — Enter the user or administrator e-mail address you would like to receive returned messages to any e-mail sent by the File Manager.

4. Specify the list of contacts that you want the error notification service to e-mail when a logged error occurs. For more information, see “Setting Up E-mail Error Notification Contacts” on page 54.

Setting Up E-mail Error Notification Contacts

You can add to, edit, and delete your Setup Manager e-mail notification list.

To add an e-mail account to the Contact list:

1. Click the Add button.

   The Add Contact dialog box opens.
2. Type a Name for the contact account.
3. Type the e-mail address (in the standard *person@domain.com* format) to which the message should be sent.
4. Click the Add button to add the account to the Contact list and clear the Name and E-mail fields.
5. To add more accounts, repeat steps 2 to 4.
6. When you are done, click Close.

   The Add Contact dialog box closes.

To edit an existing contact:

1. Select the contact in the Contact list and click Edit.

   The Edit Contact dialog box opens.
2. Change the Name and E-mail address information.
3. Click Change.

   The changes are applied.

To remove a contact:

- Select the contact in the Contact list and click Remove.

  The contact is removed from the list.

Chapter 4
Managing the Drive Hardware

This chapter describes how to configure and manage your drive hardware as a data drive set.

You perform all drive management operations described in this chapter from the Setup Manager. For more information about how to start and use the Setup Manager, see Chapter 2.

If you need to recover and replace a failing drive online, see Appendix A.

This chapter discusses:

- Creating a New Data Drive Set
- Adding Storage to Your Environment
- Adding Active Data Drives to a Data Drive Set
- Removing Drives from Your Environment
- Setting Drive Mode Pages
- Deleting a Data Drive Set
- Rebuilding a Data Drive Set
- Bringing the Data Drive Set Online and Taking the Data Drive Set Offline

Creating a New Data Drive Set

After you install all the hardware and software that comprise your environment, you must create a data drive set, which is the set of physical drives that provides the large, virtual file system. A data drive set can be set up either automatically with the Configuration Assistant or manually.

However, if you have specific requirements for configuring the data drive set (for example, if you want to specify how many drives should be designated as spares), you will need to create your data drive set manually.

Creating a Data Drive Set Automatically

To create a data drive set as quickly as possible, use the Setup Manager Configuration Assistant. The Configuration Assistant automatically creates a basic data drive set consisting of:

- Active data drives (all but one of the available drives)
- A single spare data drive

Avid strongly recommends keeping at least one spare drive of each data drive size in your data drive set, even if you are using mirroring. (For example, if you have 180-GB and 73-GB drives in your data drive set, you should have at least one spare of each size). Therefore, if you have mixed drive sizes, you should create the data drive set manually.

To run the Configuration Assistant:

1. Choose Configuration Assistant from Setup Manager in the Quick Start menu.

   The Setup Manager dialog box opens, describing the data drive set that the Configuration Assistant is going to create.

2. Click OK.

When the configuration operation is completed, your working data drive set will be ready for you to perform further configurations from the Administration Tool. For information about the Administration Tool see Chapter 5.

Creating a Data Drive Set Manually

This section describes how to manually create a data drive set consisting of data drives and optional spare data drives.

If you have an existing data drive set, do not perform this procedure.

Creating a Data Drive Set from Raw Drives

To create a data drive set from Fibre Channel drives that are in a raw state:

1. Click Start, point to Programs, point to Avid Unity, and then select Setup Manager.

   The Setup Manager opens.

2. Select the Raw Drives group in the drive group list, and click it to display all the attached raw drives in the drive list.

3. Select a minimum of four raw drives of the same size that will become data drives in your new data drive set.

4. Choose Create Data Drive Set from the Drive Set menu to create a data drive set from the selected raw drives.

   A progress indicator appears, indicating that the Setup Manager is building the data drive set.

When the data drive set has been built successfully, the File Manager and data drive set come online automatically.

To use the new data drive set:

- Open the Administration Tool and use it to assign the data drives to one or more allocation groups. For more information, see “Adding Drives to Allocation Groups” on page 89.

Creating Spare Data Drives from Raw Drives

Avid recommends keeping at least one spare drive of each data drive size in your data drive set (for example, if you have 180-GB and 73-GB drives in your data drive set, you should have at least one spare of each size).

To create a spare data drive:

1. Click Start, point to Programs, point to AvidUnity, and then select Setup Manager.

   The Setup Manager opens.

2. Select the Raw Drives group in the drive group list, and click it to display all the attached raw drives in the drive list.
3. Select a raw drive.
4. Choose Make Drive Spare from the Drives menu.

   The drive becomes a spare data drive and is moved from the Raw Drives group into the Data Drive Set group.

A spare data drive is required before you can replace a failing drive (see "Replacing the Data Drive Set" on page 139).

For information about manually adding a new spare drive to the MEDIArray ZX drive, see "Adding Storage to Your Environment" on page 58.

Adding Storage to Your Environment

The Metachecker utility checks the MediaNetwork metadata integrity. Metachecker is run automatically anytime you add a drive to or remove a drive from your data drive set. *Do not* run this utility manually unless directed by Avid Customer Support.

To physically add new MEDIArray ZX drives to your environment:

1. Stop the File Manager service (see "Starting and Stopping the File Manager" on page 40). In a fail-over configuration, stop the passive File Manager before stopping the active File Manager. Otherwise, the system will perform a fail-over to the passive system in the middle of the shutdown.
2. Shut down and turn off power to the File Manager system. In a fail-over configuration, shut down *both* File Managers.
3. Turn off power to the MEDIArray drive enclosures.
4. Add the new MEDIArray drives, installing new MEDIArray enclosures to accommodate the drives if necessary as described in the *Avid Unity MediaNetwork File Manager Setup Guide*.
5. Turn on power to the MEDIArray drive enclosures.
6. Reset the Fibre Channel switch.
7. Start the File Manager. In a fail-over configuration, restart only one File Manager.
8. Open the Setup Manager.

   The newly added drives will appear in the Raw Drives group, the Other Fibre Channel Drives group, or an additional Data Drive Set group, depending on how they have been used previously.

If the newly added drives create another Data Drive Set group, you must delete that new data drive set before attempting to bring your environment online. See "Deleting a Data Drive Set" on page 65. If the newly added drives appear in the Other Fibre Channel Drives group, you need to make them Raw.

If the new drives are not listed, there is probably something wrong with their physical connections. Do not proceed any further and see the Avid Unity MediaNetwork File Manager Setup Guide.

9. Add the new drives to the data drive set (see "Adding Active Data Drives to a Data Drive Set" on page 60).
10. In a fail-over configuration, restart the other File Manager.

Adding Active Data Drives to a Data Drive Set

The Setup Manager allows you to enlarge your data drive set by adding active data drives to your existing data drive set. Available drives appear in the Raw Drives group, the Other Fibre Channel Drives group, or the Data Drive Set group, depending on whether they are newly added and how they were previously used.

If you are adding new, previously unused drives, proceed to "Creating Data Drives from Raw Drives" on page 61.

Adding Drives That Were Data Drives in Another Data Drive Set

If the drives added to your data drive set were used previously in another data drive set, two Data Drive Set groups appear in the drive group list:

- One Data Drive Set group contains the newly added drives, including the drives you added from another data drive set. This group also includes any missing drives.
- The other Data Drive Set group is your existing data drive set.

You must delete the data drive set containing the newly added drives before you can use the new drives in your existing data drive set.

To add data drives previously used in another data drive set to your current data drive set:

1. From the File Manager desktop, click the Start button, point to Programs, point to Avid Unity, and then select the Setup Manager.

   The Setup Manager opens.

2. Select the Data Drive Set group that contains the drives you want to add to your data drive set.

   All the drives in that group appear in the drive list.

Do not proceed unless you are sure that you have selected the correct data drive set. Deleting a Data Drive Set group causes all data on that data drive set to be lost.

3. Choose Delete Data Drive Set from the Drives menu.

The data drive set is deleted and all the drives in it become raw. Therefore, they now appear in the Raw Drives group.

4. Proceed to "Creating Data Drives from Raw Drives" on page 61.

Adding Drives That Were Previously Used with Another Application

If the drives you want to add to your data drive set were used previously in another environment, they will appear in the Other Fibre Channel Drives group.

To add the drives to your current data drive set:

1. From the File Manager desktop, click the Start button, point to Programs, point to Avid Unity, and then select the Setup Manager.

   The Setup Manager opens.

2. Select the Other Fibre Channel Drives group.

   All the drives in that group appear in the drive list.

3. Select the drives from the drive list that you want to add as data drives to your data drive set.

4. Choose Make Drive Raw from the Drives menu to remove any formatting and information on the drives.

Making the drives into raw drives causes all data on the selected data drive set to be lost.

5. Proceed to "Creating Data Drives from Raw Drives" on page 61.

Creating Data Drives from Raw Drives

To create data drives from raw drives:

1. From the File Manager desktop, click the Start button, point to Programs, point to Avid Unity, and then select the Setup Manager.

   The Setup Manager opens.

2. Select the Raw Drives group.

   All the drives in that group appear in the drive list.

3. Select the raw drives from the drive list that you want to add as data drives to your data drive set.

4. Choose Make Drive Spare from the Drives menu.

   The raw drives are added to the Data Drive Set group as spare data drives.

5. Select the newly created spare data drives from the Data Drive Set group.
6. Choose Add Additional Drives from the Drive Set menu.

   A progress indicator appears. As soon as the data drive set has been successfully enlarged, the File Manager and data drive set come online automatically.

7. Use the Administration Tool to assign the newly added drives to one or more allocation groups. For more information, see "Adding Drives to Allocation Groups" on page 89.

Removing Drives from Your Environment

You can remove drives from your data drive set, as long as the following conditions are met after you have done so:

- The data drive set contains at least four drives.
- The data drive set contains enough drives to support the space allocated to your workspaces.

This is the total amount of storage allocated to the workspaces, not the actual amount of data stored on the workspaces.

- The data drive set contains at least the number of drives currently required to store the file system's metadata.

The process for removing drives involves removing the drives from the data drive set (which requires that you first remove them from any allocation groups to which they are assigned), then physically removing them from the MEDIArray drive enclosure.

Removing Active Data Drives from a Data Drive Set

To remove active data drives from an existing data drive set:

1. Use the Administration Tool to remove the drives from any allocation groups to which they are assigned. Make your workspaces smaller if necessary. For more information, see "Adjusting Workspace Size" on page 101.

When you optimize, as explained below, be aware that the size of files when using MXF, starting in v3.5.3, is vastly larger than what is possible with OMF files. For optimize to succeed, you must have enough free space on the drive equal to the largest data file on the disk. If you have a data file that is larger than the available free space you will receive a "Some files were not optimized" error.

   When prompted to optimize all workspaces on the allocation group, click *Yes* to optimize the workspaces and move all data from the drives you want to remove. Make sure that this completes successfully. For more information, see "Removing Drives from Allocation Groups" on page 90.

2. In the Setup Manager, select the Data Drives Set group.

   All the drives in that group appear in the drive list.

3. Select the drives that you want to remove.

In addition to the drive name, a good way to confirm that a drive is not in an allocation group and available for removal is that its % Used is 0.00%.

4. Choose Remove Selected Drives from the Drive Set menu to remove formatting from the drives.
5. Click Yes to confirm the removal.
6. Click Yes when a message box opens, informing you that the data drive set must be taken offline.

   The Server Offline Control dialog box opens.

7. Type the number of seconds to wait until the server goes offline and click OK.

8. When the data drive set comes back online, select the Raw Drives group in the Setup Manager. The drives you removed from the data drive set should now appear in the data drive set. You can now physically remove the MEDIArray drives (see "Physically Removing Storage from Your Environment" on page 64).

Physically Removing Storage from Your Environment

To physically remove MEDIArray drives from your environment:

1. Stop the File Manager service (see "Starting and Stopping the File Manager" on page 40). In a fail-over configuration, stop the passive File Manager before stopping the active File Manager. Otherwise, the system will perform a fail-over to the passive system in the middle of the shutdown.
2. Shut down and turn off power to the File Manager system. In a fail-over configuration, shut down *both* File Managers.
3. Turn off power to the MEDIArray drive enclosures.
4. Remove the new MEDIArray drives (and MEDIArray drive enclosures, if required) as described in the *Avid Unity MediaNetwork File Manager Setup Guide*.
5. Turn on power to the MEDIArray drive enclosures.
6. Reset the Fibre Channel switch.
7. Restart the File Manager. In a fail-over configuration, restart both File Managers.
8. Restart the Setup Manager. In a fail-over configuration, restart the Setup Manager on both File Managers and determine the active File Manager (see "Determining the Active File Manager" on page 40).

You must use the Setup Manager on the active File Manager to perform the next step in this procedure.

9. Check that the drives no longer appear in the Raw Drives group.

Setting Drive Mode Pages

Mode pages, which can be configured, are part of the drive firmware that determines how the drive handles data. When you create data drives, the Setup Manager configures the mode pages to efficiently handle media data in your environment.

If drive mode pages are incorrect (for example, they were changed by another application), the Setup Manager warns you by changing the Mode Page column value in the drive list from Okay to Incorrect.

To reconfigure drives with the correct mode pages:

1. From the File Manager desktop, click the Start button, point to Programs, point to Avid Unity, and then select the Setup Manager.

   The Setup Manager opens.
2. Select the appropriate drives.
3. Choose Set Mode Pages from the Drives menu.

   The mode pages are corrected.

Deleting a Data Drive Set

This procedure will cause all data on the data drive set to be lost.

To delete an existing data drive set:

1. Take the data drive set offline (see “Taking the Data Drive Set Offline” on page 67).
2. From the File Manager desktop, click the Start button, point to Programs, point to Avid Unity, and then select the Setup Manager.

   The Setup Manager opens.
3. Select the Data Drive set group in the drive group list.
4. Choose Delete Data Drive Set from the Drive Set menu.

   A dialog box opens and prompts you to confirm this choice.

   A progress indicator opens, showing that the Setup Manager is deleting the data drive set.

After the data drive set is deleted, all of the data drives previously in your data drive set will appear in the Raw Drives group.

Rebuilding a Data Drive Set

This procedure will cause all data on the data drive set to be lost.

To rebuild an existing data drive set:

1. Delete the existing data drive set (see "Deleting a Data Drive Set" on page 65).

   After the data drive set is deleted, all of the data drives will appear in the Raw Drives group.

2. Select the Raw Drives group in the drive group list and click it to display all the attached raw drives in the drive list.
3. Select all the raw drives that you want to become data drives in the new data drive set.
4. Choose Create Data Drive Set from the Drive Set menu to rebuild the data drive set.

   A progress indicator opens, showing that the Setup Manager is building the data drive set.

As soon as the data drive set has been built successfully, the data drive set comes online automatically.

Bringing the Data Drive Set Online and Taking the Data Drive Set Offline

Some hardware operations (for example, repairing the data drive set) require that you first take the data drive set offline and then bring it online again. You can also take the data drive set offline to prevent client access to all of your workspaces.

Data drive set sharing status is indicated in three ways:

- Information area of the Setup Manager
- Take Offline command in the Drive Set menu of the Setup Manager (available when the data drive set is online)
- Bring Online command in the Drive Set menu of the Setup Manager (available when the data drive set is offline).

Bringing the Data Drive Set Online

To bring the data drive set online:

1. From the Setup Manager, select the Data Drive Set group in the drive group list.
2. Choose Bring Online from the Drive Set menu.

   The data drive set comes online.

Taking the Data Drive Set Offline

Before taking the data drive set offline, you should identify any clients that have workspaces mounted (using the Monitor Tool Active Client tab) and warn the clients that you are taking the data drive set offline.

To take the data drive set offline:

1. From the Setup Manager, select the Data Drive Set group in the drive group list.
2. Choose Take Offline from the Drive Set menu.

   A dialog box opens, prompting you to specify the delay that you want to occur (in seconds) before the data drive set is brought offline so that clients can unmount all workspaces.

3. Type the required delay or accept the default (60 seconds) and click OK.
   After the specified delay, the data drive set goes offline.

Chapter 5
Administration Tool

The Administration Tool is used for the initial setup and day-to-day administration of allocation groups, workspaces, users, and client connection privileges. It also allows you to monitor your environment's activity.

The Administration Tool uses many system resources while running. Avid suggests that, if possible, after initial setup you run the Administration Tool from a MediaNetwork client attached to the same Fibre Channel switch as the File Manager. However, if you must run the Administration Tool from the File Manager, never leave it running or minimized. Launch the Administration Tool, perform the administration function needed and quit the Administration Tool.

This chapter provides an overview of the Administration Tool and describes the basics of how to use it (opening the tool, logging in, setting preferences, and so on).

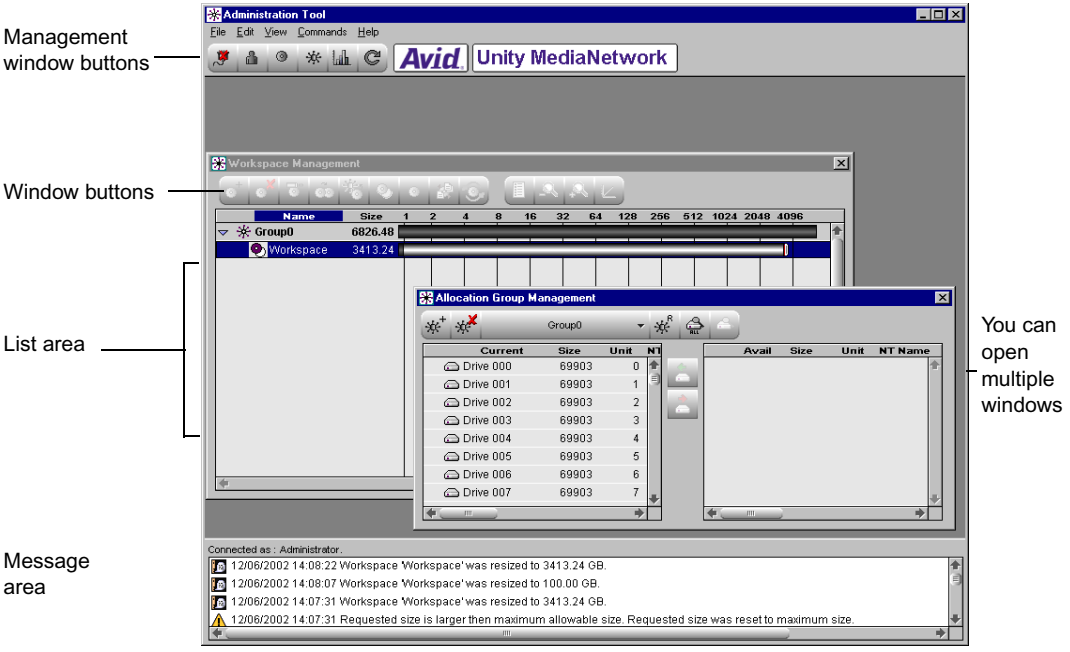
This chapter discusses:

- Understanding the Administration Tool User Interface
- Opening the Administration Tool
- Logging In to the Administration Tool
- Administration Tool Preferences Window
- Reestablishing a Connection to the File Manager

Understanding the Administration Tool User Interface

The Administration Tool, which you can run on the MediaNetwork File Manager or any client, has a user interface (UI) where controls are grouped by function and are displayed by clicking the appropriate management window buttons.

You can open multiple management windows in a session, and retain window placement and sizes between sessions.


Management window buttons
Window buttons
List area
Message area
You can open multiple windows
Administration Tool
File Edit View Commands Help
Avid
Unity MediaNetwork
Workspace Management
Name Size 1 2 4 8 16 32 64 128 256 512 1024 2048 4096
Group0 6826.48
Workspace 3413.24
Allocation Group Management
Group0
Current Size Unit NT
Drive 000 69903 0
Drive 001 69903 1
Drive 002 69903 2
Drive 003 69903 3
Drive 004 69903 4
Drive 005 69903 5
Drive 006 69903 6
Drive 007 69903 7
Avail Size Unit NT Name
Connected as : Administrator.
12/06/2002 14:08:22 Workspace 'Workspace' was resized to 3413.24 GB.
12/06/2002 14:08:07 Workspace 'Workspace' was resized to 100.00 GB.
12/06/2002 14:07:31 Workspace 'Workspace' was resized to 3413.24 GB.
12/06/2002 14:07:31 Requested size is larger then maximum allowable size. Requested size was reset to maximum size.

User Interface Management

This section briefly describes each component of the Administration Tool's UI.

Message Area

The message area shows your connection status, along with information from the message log.

List Area

The contents of the list area are different for each window, but each list has similar functions, such as:

- You can expand and contract by clicking the list opener.
- You can select a single object by clicking.
- You can select multiple objects by Shift+clicking.
- You can select multiple objects by clicking a selection box and dragging it.
- You can rename an object by clicking its name and typing a new one.

Clicking an icon in the list area selects the object without making its name editable. Clicking directly on an item's name makes the name editable as well as selecting the item.

Window Buttons

Each window has buttons that provide access to the most common operations with a single click.

User Interface Window Descriptions

The following table describes the five windows in the Administration Tool:

Window	Allows You To
File Manager	View and change your File Manager connection.
User Management	View, create, edit, and delete user accounts (with optional passwords) and assign access privileges to workspaces.
Workspace Management	View, create, rename, adjust the size of, protect, optimize, and delete workspaces.

Window	Allows You To
Allocation Group Management	View, create, rename, and delete allocation groups. It also allows you to add and remove drives from existing allocation groups.
Connection Monitor	Monitor system usage, including total system bandwidth use, number of active clients, and client bandwidth consumption.

Getting Help with the Administration Tool

The Help system provides procedures and reference information for all features of the Administration Tool.

Opening the Administration Tool

You can open the Administration Tool from the File Manager console, from any Windowsclient, from a Macintosh client, and in more than one location simultaneously. You can do this on Fibre Channel clients but not Ethernet clients. This allows you to monitor usage and to perform other administrative tasks from the most convenient location without having to return to another running copy of the Administration Tool to shut it down before doing your work.

Performing administrative functions on more than one Administration Tool at the same time can cause unexpected results. For example, if two administrators are deleting the same user account at the same time, a second user account might also be accidentally deleted.

Before Performing Administrative Functions

It is critical that clients unmount workspaces when the administrator performs the following functions:

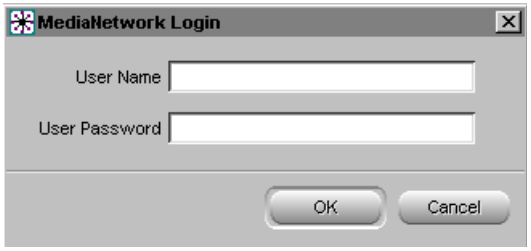
- Stopping and restarting the File Manager (unmount all workspaces)
- Taking the data drive set offline (unmount all workspaces)
- Rebooting the File Manager (unmount all workspaces)
- Changing users' access (unmount only the affected workspaces)
- Optimizing workspaces (unmount only the affected workspaces)

If a client is using a workspace when it is taken offline, the connection to the workspace is broken and data might be lost.

Logging In to the Administration Tool

If you have specified an administration password (see "Setting the Administration Password" on page 77), the Administration Tool prompts you to supply that password to log in. If you enter the wrong password, an error message appears and the login window reappears.

Regular users can log in to the Administration Tool and view the Workspace management window. However, they can view only the workspaces they have Read/Write access to, and must be given privileges to adjust the size of their workspaces.



Administration Tool Preferences Window

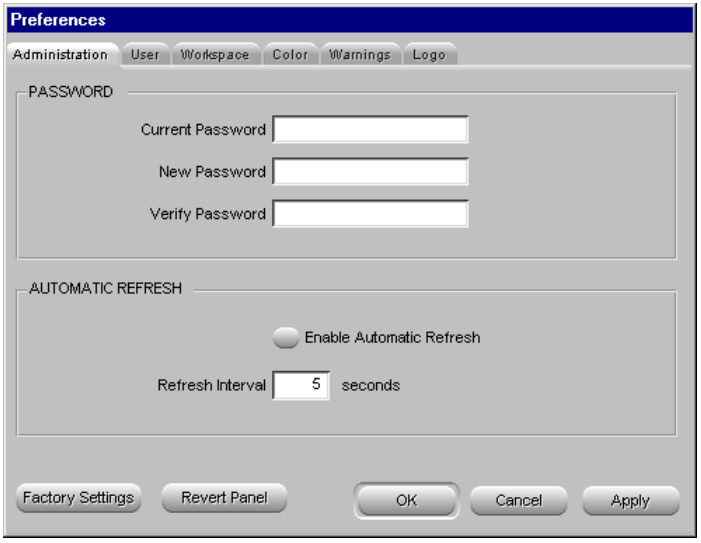
The Administration Tool allows you to set preferences that specify a wide range of options (such as the administration password, user interface colors, and graph display options). You also use the tool to configure your environment by creating default names and setting access privileges for new workspaces and users.

You can also export entire sets of preferences that can be imported later and applied to workspaces and users. With the exception of administration passwords, preferences are system specific. For more information, see "Exporting and Importing Preferences" on page 76.

Setting Administration Tool Preferences

To open the Preferences window:

- Choose Preferences from the File menu.



Preference Tabs

The Preferences window contains six tabs, each containing options and default values related to an aspect of Administration Tool functionality. The following table describes the Preferences window tabs.

Preference Window Tabs

Tab	Specifies
Administration	Administrator password. See "Setting the Administration Password" on page 77.
User	Default name, password, and access privileges for new users. Also specifies view preferences (icon/text) for access privileges. See "Setting User Account Preferences" on page 78.

Preference Window Tabs (Continued)

Tab	Specifies
Workspace	Default name, access privileges, and size for new workspaces. See "Setting Workspace Preferences" on page 79.
Color	User interface colors. See "Setting Workspace and Monitor Graph Bar Colors" on page 80.
Warnings	Percent used warnings for both workspaces and allocation groups See "Setting Warning Preferences" on page 81.
Logo	Logo text for the main window. See "Setting Logo Preferences" on page 82.

Undoing or Canceling Preference Changes

If you need to undo any changes you make, the Preferences window offers three options to revert to earlier preferences or to cancel your changes:

- Click the Revert Panel button to return the preferences to their last saved values.
- Click the Factory Settings button to return the preferences back to the original values set at installation time.
- Click the Cancel button to close the Preferences window without saving your changes.

Saving Preference Changes

To view preference changes immediately or to apply some changes and then continue changing preferences, click the Apply button. This saves your changes without closing the Preferences window.

When you have finished making preference changes, click OK. This saves all your changes and closes the Preferences window.

Preferences are saved locally to a file on the system on which you are running the Administration Tool. The following tale shows the location of the preferences file on different system types.

Preference File Locations

System Type	File Location
File Manager or Windows client	MediaNetwork installation directory (D:\Program Files\Avid Technology\AvidUnity by default)
Macintosh client	System Folder/Preferences/Avid Unity Preferences

If you want to make preferences available on other clients, you need to export your preferences to a shared drive, workspace, or floppy disk (see "Exporting and Importing Preferences" on page 76).

Exporting and Importing Preferences

The Administration Tool allows you to export and import preferences. This allows you to save multiple preferences sets to accommodate different usage situations and multiple administrators, and to provide consistent settings across multiple systems on which the Administration Tool can be run.

Additionally, you can export preference sets to a shared drive (or workspace if you know that it will not be deleted) for import into the Administration Tool on any client in your environment.

To export the current preference:

1. Choose Export Preferences from the File menu.

   The File Selection dialog box opens.

2. Select a location and name for the exported preferences file that you want to create and click OK.

To import a preference:

1. Choose Import Preferences from the File menu.

   The File Selection dialog box opens.

2. Navigate to and select the Preferences file that you want to import, and click OK.

Setting the Administration Password

The Administration tab of the Preferences window allows you to specify an administration password to restrict access to the Administration Tool (see "Logging In to the Administration Tool" on page 73).

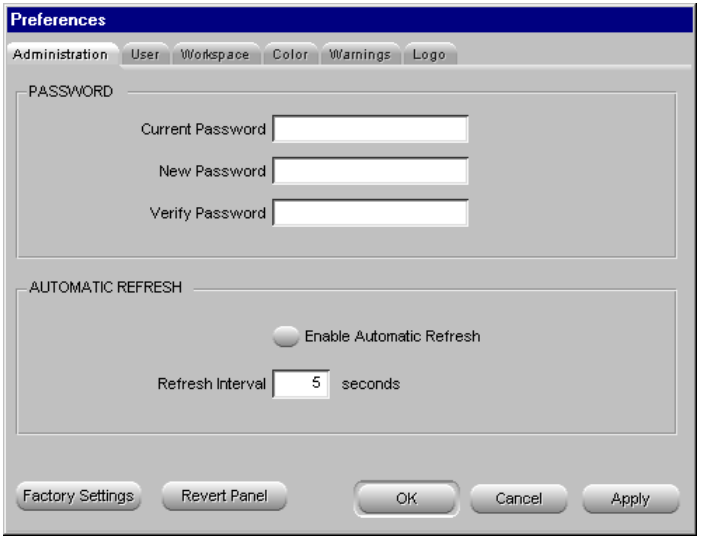
To protect your configuration, Avid recommends that you specify an administration password the first time you use the tool after creating your data drive set. If you do not set an administration password, anyone can access the tool.

To set the administration password:

1. Choose Preferences from the File menu.

   The Preferences window opens.

2. Click the Administration tab.



3. Type the current administration password (if any) and the new administration password twice (the second time for verification purposes) in the text boxes.
4. (Option) Select Enable Automatic Refresh, and enter a refresh interval.
5. Click Apply to save your new password.

Be sure to remember the administration password. If you forget it, you can regain access to the Administration Tool by resetting the password from the Monitor Tool. For more information, see the tool's Help system.

Setting User Account Preferences

The User tab of the Preferences window allows you to specify the default user names, passwords, and access privileges for new user accounts (and the Guest user account). You also can specify whether access privileges are displayed as icons or text in the user list display. For more information, see Chapter 8.

To set user preferences:

1. Choose Preferences from the File menu.

   The Preferences window opens.

2. Click the User tab.

3. Type the name for the user account in the Name text box.
4. Type the login password for the user account in the Password text box.
5. Choose the access privileges for the user account (No Access, Read Access, Read/Write Access, or Selected User Access) from the Access Privileges pop-up menu.

6. Select whether access privileges will be displayed as text, colored squares, or icons in the user list display from the User Access Icons area.
7. Click Apply or OK to save your changes. Alternatively, you can click Revert Panel to revert to your previous user preferences or click Cancel to close the window without saving the new preferences.

Setting Workspace Preferences

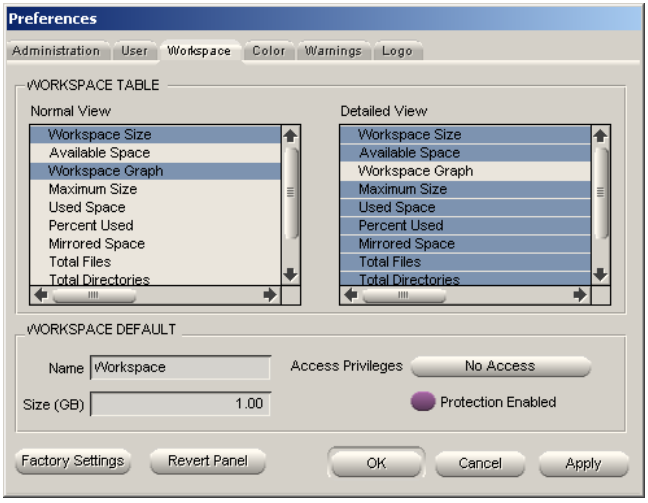
The Workspace tab of the Preferences window allows you to specify the default names, access privileges, and sizes for new workspaces. You also can specify default scaling settings for the workspace list in the Workspace tab. For more information about the Workspace tab, see Chapter 7.

You also can set your workspace graph scaling preferences by setting them dynamically and saving them from the Workspace tab.

To set workspace preferences:

1. Choose Preferences from the File menu.

   The Preferences window opens.
2. Click the Workspace tab.



3. Set new values for the preferences that you want to change:
   - Type the name for the workspace in the Name text box.

- Type the size, in gigabytes, for the workspace in the Size (GB) text box.
- Choose the access privileges for the workspace (No Access, Read Access, Read/Write Access, or Selected Workspace Access) from the Access Privileges pop-up menu.
- If you do not want protection to be enabled by default for the workspace, deselect the Protection Enabled option.
- Shift+select to choose a column view (either Normal or Detailed) *only* for data you want to display.

4. Click Apply or OK to save your changes. Alternatively, you can click Revert Panel to revert to your previous user preferences or click Cancel to close the window without saving the new preferences.

Setting Workspace and Monitor Graph Bar Colors

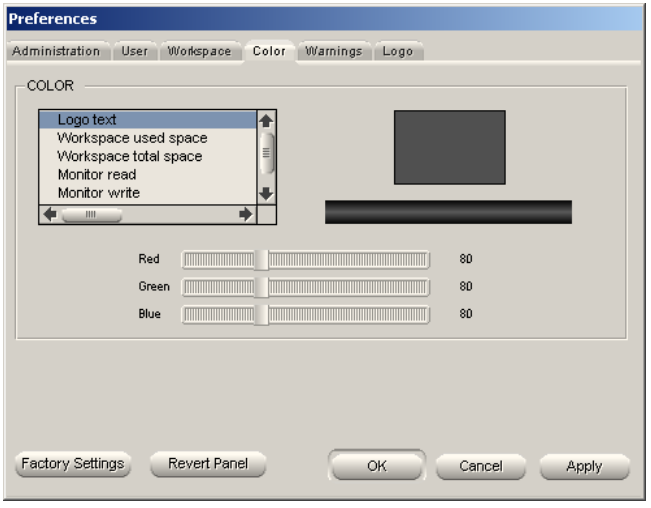
The Color tab of the Preferences window contains controls that allow you to change the color of the workspace and monitor graph bars in the Administration Tool's UI.

To set the workspace and monitor graph bar colors:

1. Choose Preferences from the File menu.

   The Preferences window opens.

2. Click the Color tab.



3. Choose the graph bar element that you want to change from the Color menu.
4. Select the red, green, and blue color component values by moving the corresponding sliders. As you alter the values, the color of the selected graph bar element changes in the preview bars.
5. Select and change other graph bar elements by repeating steps 3 and 4.
6. Click Apply or OK to save your color changes. Alternatively, you can click Revert Panel to revert to your previous color preferences or click Cancel to close the window without saving the new preferences.

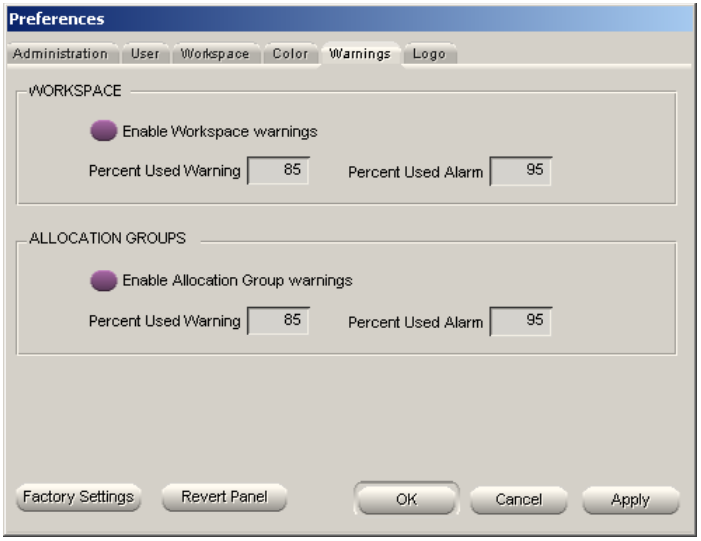
Setting Warning Preferences

The Warnings tab of the Preferences window allows you to set warnings and alarms for both workspaces and allocation groups.

To set warnings preferences:

1. Choose Preferences from the File menu.

   The Preferences window opens.
2. Click the Warnings tab.



3. Choose percent used values for workspace and allocation groups.

- The Workspace Management window will highlight yellow if the warning level is exceeded.
- The Workspace Management window will highlight red if the alarm level is exceeded.

4. Click Apply or OK to save your changes. Alternatively, you can click Revert Panel to revert to your previous warnings preferences or click Cancel to close the window without saving the new preferences.

You can disable these warnings if you do not want them to be active.

Setting Logo Preferences

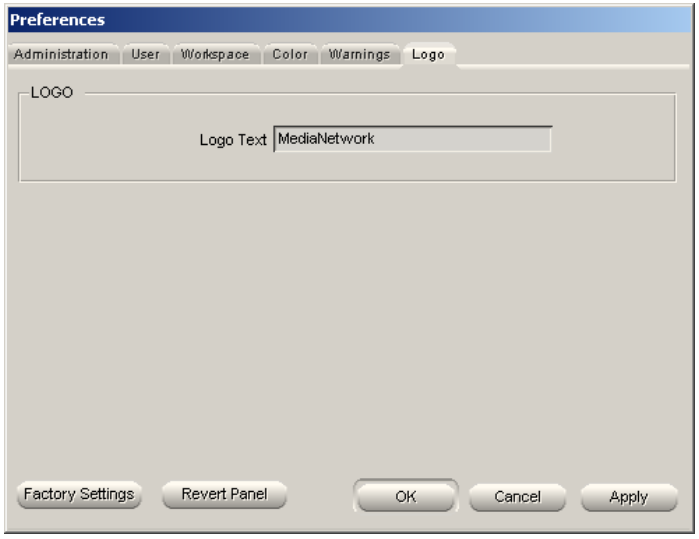
The Logo tab of the Preferences window gives you the option to create a text logo, which displays next to the Management Window toolbar.

To set logo preferences:

1. Choose Preferences from the File menu.

   The Preferences window opens.

2. Click the Logo tab.



3. Type the logo text.

4. Click Apply or OK to save your changes. Alternatively, you can click Revert Panel to revert to your previous user preferences or click Cancel to close the window without saving the new preferences.

Reestablishing a Connection to the File Manager

If the Administration Tool's connection to the File Manager is disrupted during a session, the Connect icon will display an "X" mark.

To reestablish your connection to the File Manager:

1. Click the Connect icon.

   The Login window opens.

2. Enter your user name and password, then click OK.

   If the File Manager is running, you will reconnect.

   If the File Manager is down, you will receive an error message.

Chapter 6
Managing Allocation Groups

Allocation groups are partitions, each containing four or more assigned data drives from the larger data drive set. This chapter describes how to create and manage allocation groups in your file system.

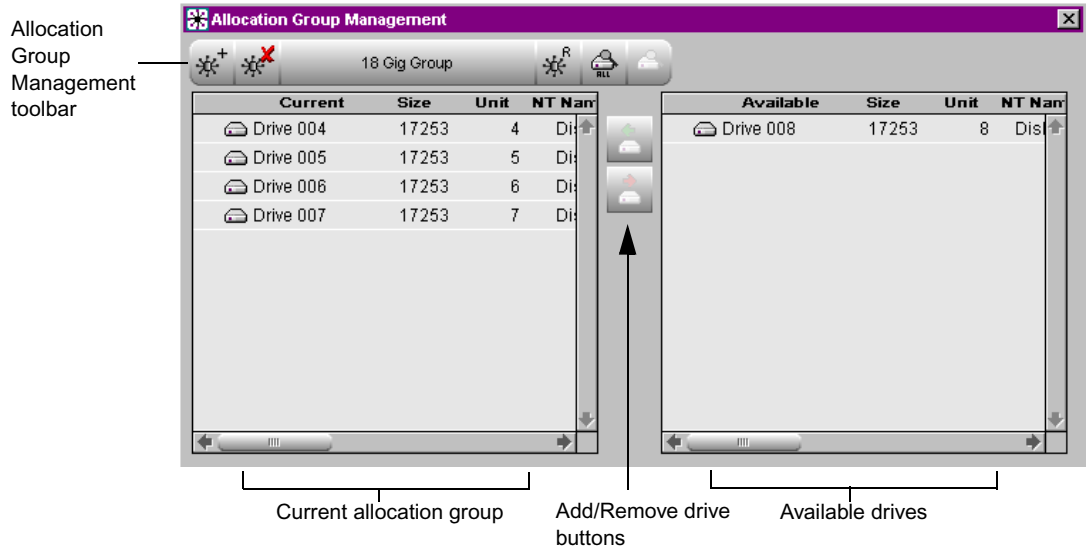
This chapter discusses:

- The Allocation Group Management Window
- Allocation Group Usage Guidelines
- Creating Allocation Groups
- Adding Drives to Allocation Groups
- Removing Drives from Allocation Groups
- Identifying Drives
- Renaming Allocation Groups
- Deleting Allocation Groups

The Allocation Group Management Window

You perform most allocation group operations from the Allocation Group Management window. You create new allocation groups from a separate window, which is described in “Creating Allocation Groups” on page 87.

The Allocation Group Management window contains two sections. The left side displays all the drives in your current selection. The right side displays a list of all available drives.



The toolbar buttons allow you to add, delete, and rename drives, as well as identify all drives or specific drives. Two context-sensitive buttons allow you to add drives to and remove drives from the allocation group.

Allocation Group Usage Guidelines

You can assign all of your data drives to one large allocation group. To further optimize performance, you can use allocation groups to configure your file system.

If your environment supports clients with very high bandwidth requirements, you will need to set up specific hardware and allocation group configurations to support them. For more information, see the *Avid Unity MediaNetwork v3.6 and v3.5 Configuration Guidelines*.

In such an environment, you can use allocation groups to isolate clients that need very high bandwidth and thus eliminate the competition from other clients trying to access the same drives. For example, when uncompressed media is in its own allocation group and a single client is using the

uncompressed media, that client is serviced independently from any other clients in the workgroup. This logic can also be applied to separating audio and video media.

In other situations, allocation groups are more flexible, allowing you to assign drives in your file system configuration to allocation groups with few limitations other than the following guidelines:

- Use only one drive type (size) per allocation group.
- Use a minimum of four drives per allocation group.
- Divide very large data drive sets (over 60 drives) into several allocation groups to minimize the risk of two drives used in a protected workspace failing at the same time.

Creating Allocation Groups

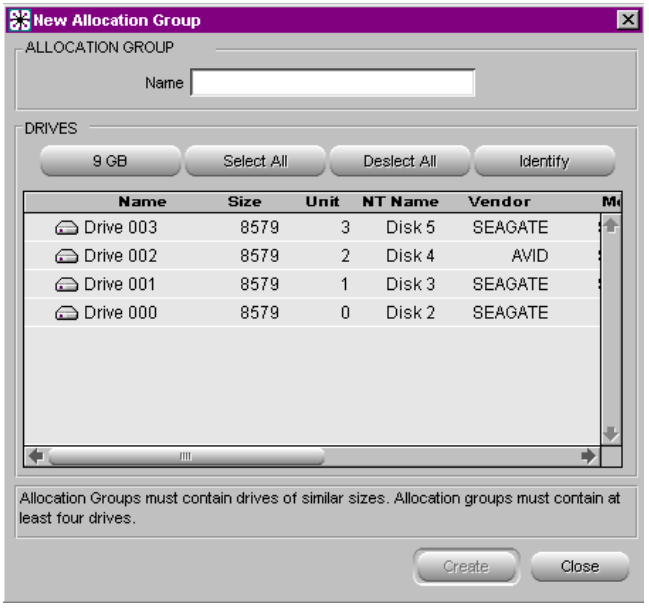
An allocation group is a set of physical drives that form a subset of the data drive set to accommodate different drive types, clients with different data rate requirements (for instance, clients that use compressed and uncompressed media), and so on.

To create a new allocation group:

1. Open the Administration Tool, and click the Allocation Group Management button. For more information on opening the Administration Tool, see “Opening the Administration Tool” on page 72.
2. Do one of the following:

   - Click the Create New Allocation Group button.
   - Select New Allocation Group from the Commands menu.

   The New Allocation Group dialog box opens.



3. Type a name for the allocation group.
4. Select all the drives you want to assign to the new allocation group (four-drive minimum) by clicking them.

   If you are creating allocation groups containing specific drives in the MEDIArray drive enclosures:

   a. Click the Identify button. The drive light flashes on the drive being identified.

   b. If the identified drive is the drive you want in the MEDIArray drive enclosure, click the drive. If it is not the drive you wanted, select another drive.

   c. Repeat steps a and b until you have selected all the drives you want in the allocation group.
5. Click the Create button to create a new allocation group containing all the selected drives.

   A dialog box opens, asking you to confirm that you want to create a new allocation group.

   The new allocation group appears in the allocation group list.

Adding Drives to Allocation Groups

You can add unassigned data drives from the data drive set to an allocation group at any time to increase its storage capacity.

When you optimize, you make a copy of a file on a nearly full workspace or drive, move it to an emptier workspace or drive, then delete the original. You must maintain sufficient free space on your workspace or drive to make a copy of your largest file, or optimization will fail. Be aware that the size of files when using MXF, starting in v3.5.3, is vastly larger than what is possible with OMF files. For optimize to succeed, you must have enough free space on the drive equal to the largest data file on the disk. If you have a data file that is larger than the available free space you will receive a "Some files were not optimized" error.

To add drives to an allocation group:

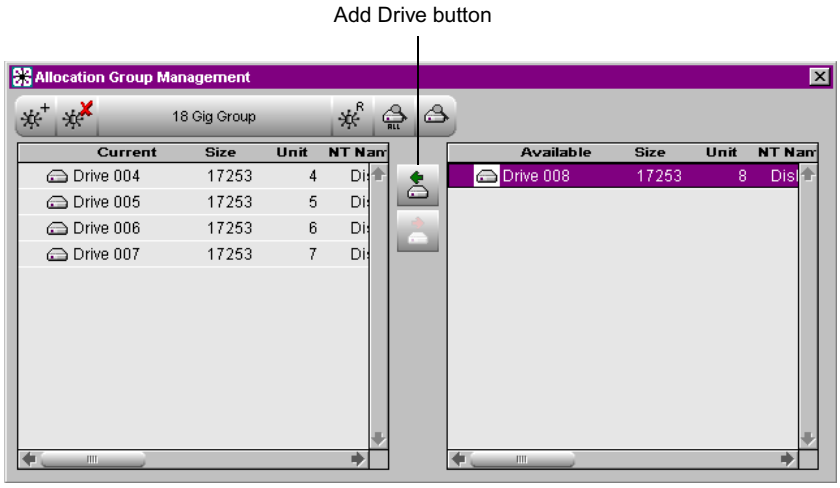
1. Open the Administration Tool, and click the Allocation Group Management button. For more information on opening the Administration Tool, see "Opening the Administration Tool" on page 72.
2. Select the allocation group where you want to add drives.
3. Select all the drives you want to add to the allocation group by clicking them.

   If you want to add specific drives from the MEDIArray drive enclosures:

   a. Click the Identify Drive button. The drive light flashes on the drive being identified.

   b. If the identified drive is the drive you wanted in the MEDIArray drive enclosure, click the drive name. If it is not the drive you wanted, select another drive.

   c. Repeat steps a and b until you have selected all the drives you want to add to the allocation group.



4. Click the Add Drive button to add the selected drives to the allocation group.

   A dialog box opens, asking whether you want to optimize all workspaces on the allocation group now:

   - Click Yes to add the drives and optimize all workspaces on the allocation group immediately.

     A progress indicator appears while the optimization process occurs.

   - Click No only if, because of time constraints, you must add the drives without an immediate optimization. You *must* manually optimize all workspaces on the allocation group as soon as possible afterward. (See "Optimizing Workspaces" on page 108.)

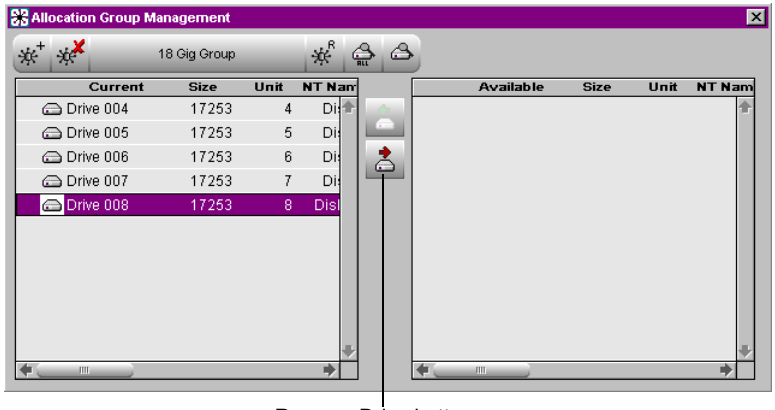
   The selected drives are added to the allocation group.

Removing Drives from Allocation Groups

You can remove drives from any existing allocation group that has no workspaces on it. Drives removed from the allocation group are returned to the data drive set's pool of unassigned data drives.

To remove drives from an allocation group:

1. Open the Administration Tool, and click the Allocation Group Management button. For more information on opening the Administration Tool, see “Opening the Administration Tool” on page 72.
2. Select the allocation group from which you want to remove drives.
3. Select the drives that you want to remove from the drive list.



4. Click the Remove Drive button. This button is only active if at least four drives are *not* selected and they can accommodate all assigned workspaces.

   A dialog box opens, asking whether you want to optimize all workspaces on the allocation group now:

   - Click Yes to remove the drives and optimize all workspaces on the allocation group immediately.

     A progress indicator appears while the optimization process occurs.

   - Click No only if, because of time constraints, you must remove the drives without an immediate optimization of all workspaces on the allocation group. You *must* manually optimize all workspaces on the allocation group as soon as possible afterward. (See “Optimizing Workspaces” on page 108.)

   The selected drives are removed from the allocation group.

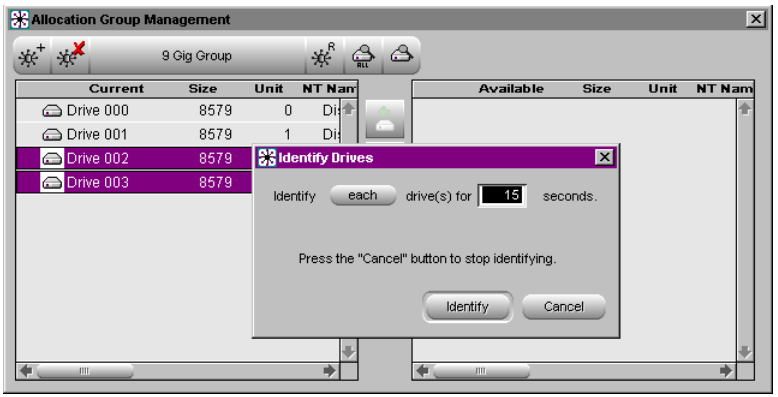
Identifying Drives

Identifying a drive causes a light to blink on the physical drive itself. You can identify one drive, selected drives, or all drives, and then specify the number of seconds you want the light to blink.

To identify drives:

1. Open the Administration Tool, and click the Allocation Group Management button. For more information on opening the Administration Tool, see “Opening the Administration Tool” on page 72.
2. Select the drives you want to identify.
3. Do one of the following:

   - Click the Identify Drives button.
   - Select Identify Drive from the Commands menu.



4. Click either the “each” or “all” button, and specify the number of seconds you want the light to blink on the drive.
   - When you choose “Identify each” on a selection of drives, the light will blink until each drive has been individually identified.
   - When you choose “Identify all” on a selection of drives, the light will blink simultaneously on all the drives.
5. Click Identify.

Renaming Allocation Groups

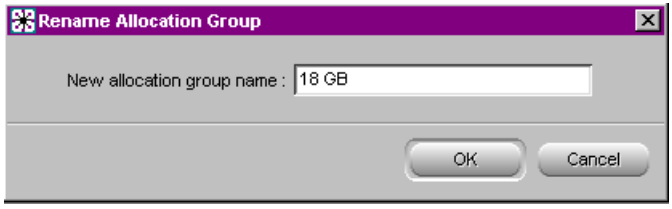
You can rename an allocation group at any time. Any changes you make are applied automatically in the Workspace Management window.

*The following characters are illegal in allocation group names: \, /, :, *, ?, ", <, >, and |.*

To rename an allocation group:

1. Open the Administration Tool, and click the Allocation Group Management button. For more information on opening the Administration Tool, see "Opening the Administration Tool" on page 72.
2. Select the allocation group name you want to change.
3. Click the Rename Allocation Group button.

   The Rename Allocation Group dialog box opens.



4. Type a new name (maximum of 27 characters).
5. Click OK.

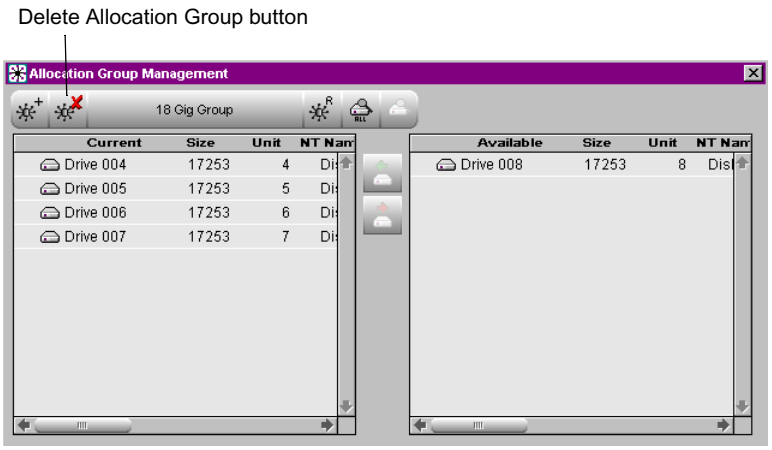
Deleting Allocation Groups

You can delete any allocation group that does not have any workspaces on it. As a result, all drives previously assigned to the allocation group return to the data drive set's pool of unassigned data drives.

To delete an allocation group:

1. Ensure that no workspaces exist on the allocation group that you want to delete (see Chapter 7).

2. Open the Administration Tool, and click the Allocation Group Management button. For more information on opening the Administration Tool, see "Opening the Administration Tool" on page 72.
3. Select the allocation group you want to delete.



4. Click the Delete Allocation Group button.

   A dialog box opens and prompts you to confirm that you really want to delete the allocation group.
5. Click OK to confirm.

   The allocation group is deleted.

Chapter 7
Managing Workspaces

Workspaces are virtual volumes that exist on allocation groups and can be resized dynamically. Workspaces allow you to easily segment your data drive set to accommodate projects and users.

This chapter describes how to create, rename, and delete workspaces. It also tells you how to manipulate the amount of storage allocated to each workspace, how to move a workspace and its contents to another allocation group, and how to protect a workspace against drive failure.

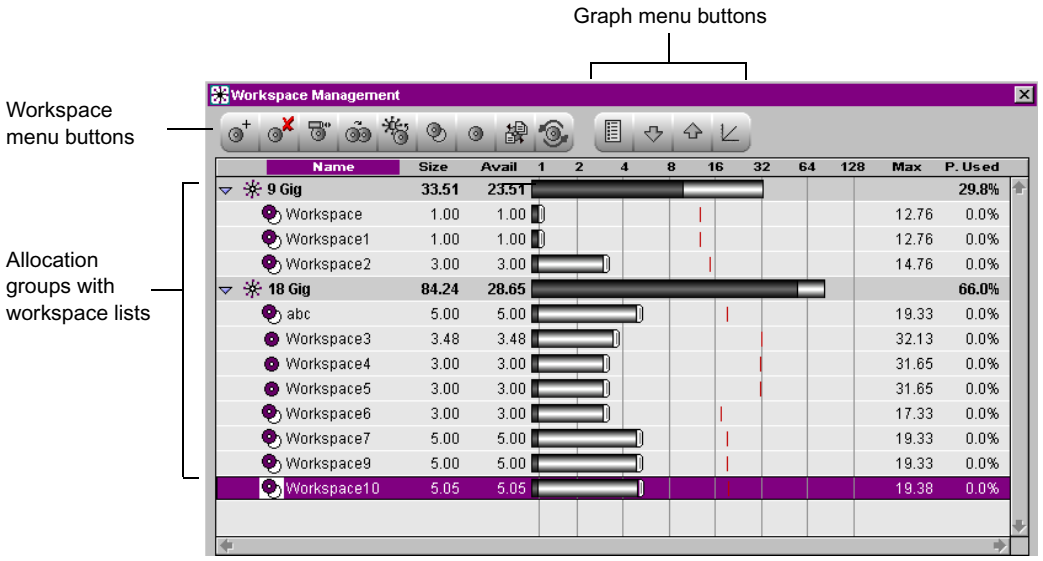
This chapter discusses:

- The Workspace Management Window
- Creating Workspaces
- Duplicating Workspaces
- Adjusting Workspace Size
- Renaming Workspaces
- Deleting Workspaces
- Protecting Workspaces
- Optimizing Workspaces
- Moving Workspaces
- Collecting Workspace Statistics

The Workspace Management Window

You perform workspace functions from the Workspace Management window of the Administration Tool, which allows you to:

- Create, delete, and rename workspaces.
- Manipulate the amount of storage allocated to each workspace.
- Protect a workspace against drive failure by duplicating files on more than one drive (a form of mirroring).
- Monitor how much free space exists on each workspace, and how much unallocated space exists in each data drive set.
- Move a workspace and its contents to another allocation group.



Workspace List

The *workspace list* displays all workspaces under the allocation groups on which they reside. For more information, see “Reading the Workspace List” on page 97 and “Changing the Workspace List Graph Display” on page 98.

Reading the Workspace List

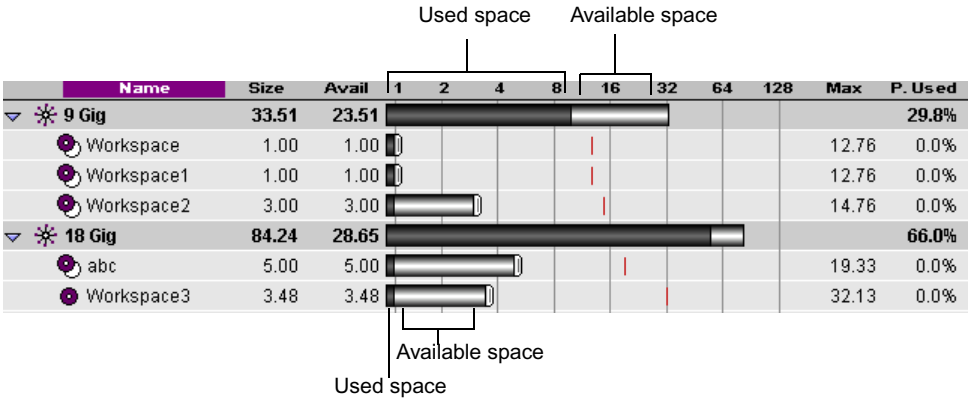
The workspace list represents data drive set, allocation group, and workspace sizes and usage. Color coding (customizable from the Preferences window) allows each bar to represent up to four characteristics for protected workspaces. The following icons identify the protected and unprotected workspaces:

Icon	Description
	Unprotected workspace
	Protected workspace
	Unprotected workspace, with some files protected
	Protected workspace, with some file unprotected

You may want to synchronize files when you have either an unprotected workspace with some files protected, or a protected workspace with some files unprotected.

For the data drive set and allocation groups, the bar colors represent:

- **Used space** — Total drive space in the data drive set or allocation group allocated to workspaces.
- **Available space** — Total drive space in the data drive set or allocation group still available for allocation to workgroups.



Changing the Workspace List Graph Display

The workspace list graph can be customized, allowing you to display data drive set and workspace sizes by using either linear or logarithmic scales, and to adjust the scale divisions and the graph view size.

Selecting a Linear or Logarithmic Graph Display

The workspace list graph can display the data drive set and workspace sizes by using one of two scales:

Scale	Button	Description
Linear		When linear scaling is being used, the Linear Scale button is hidden and the Log Scale button is displayed. Click the Log Scale button if you want to switch to the logarithmic scale.
Logarithmic		When logarithmic scaling is being used, the Log Scale button appears dimmed and the Linear Scale button is active. Click the Linear Scale button if you want to switch to the linear scale.

The linear scale is easier to read because each division of the scale represents an equal amount. The logarithmic scale allows you to view more information in a small space but is harder to read.

Scaling the Graph

In either scale, numeric divisions are displayed in gigabytes (GB).

To increase or decrease the size of the graph view, do one of the following:

- Click the Increase Scale or Decrease Scale button
- Select Increase Scale or Decrease Scale from the Commands menu.

Display Detailed Workspaces

You can display your workspaces using either a Normal View or a Detailed View. Normal View is workspace name, workspace size, and the graph bars. Detailed View is all the columns that can be displayed (which can be set in Preferences) such as size, available space, maximum space, percentage used, mirrored, and so on.

To switch between a normal view and a detailed view:

- Click the Display Detailed View button.

Creating Workspaces

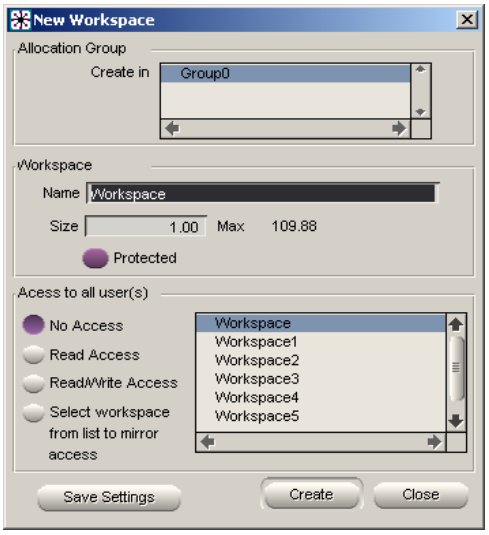
New workspaces inherit their attributes (name, size, and access privileges) from the Workspace tab preferences or when you click the Save Settings button. For more information, see “Setting Workspace Preferences” on page 79.

To create a new workspace:

1. Open the Administration Tool, and click the Workspace Management button. For more information on opening the Administration Tool, see “Opening the Administration Tool” on page 72.
2. Do one of the following:

   - Click the Create New Workspace button.
   - Select Create New Workspace from the Commands menu.

   The New Workspace window opens.



3. Select the allocation group on which you want to create the workspace.
4. Type a name for the workspace.
5. Type a size for the workspace. The maximum size allowed is listed next to the text box.
6. Click to select Protected or Unprotected.
7. Set the Access to all user(s) privileges.
8. Click Create.

Duplicating Workspaces

When you duplicate workspaces, they inherit the attributes (name, size, and access privileges) of the workspace from which they were created.

The contents of the original workspace are not duplicated.

To duplicate a workspace:

1. Open the Administration Tool, and click the Workspace Management button. For more information on opening the Administration Tool, see "Opening the Administration Tool" on page 72.
2. Select the workspace you want to duplicate.

3. Do one of the following:

   - Click the Duplicate Workspace button.
   - Select Duplicate Workspace from the Commands menu.

   The New Workspace window opens, with all the settings set for the workspace you selected.

4. Click Create.

   The new workspace has the same name as the original with the lowest available integer as a suffix (for example, a duplicate of workspace *Original Name* will be named *Original Name 1*) and inherits the access privileges and size of the original workspace.

   If there is no room for a workspace of the same size as the original, the operation fails and displays a “Not enough unallocated space on the partition” error message.

Adjusting Workspace Size

There are occasions when you must change the size of workspaces. For example, you might need to make a workspace larger to create room for a digitize procedure planned for later in the day or for some new media files. Alternatively, you might need to make a workspace smaller to create space for other workspaces or to reserve storage for another day.

Do not adjust workspaces while clients are creating files or files are being written to them. You can select multiple workspaces and adjust them at the same time.

The workspace list allows you to select workspaces for renaming, deletion, and moving to another allocation group. It also allows you to manipulate workspace size.

To adjust the size of a single workspace:

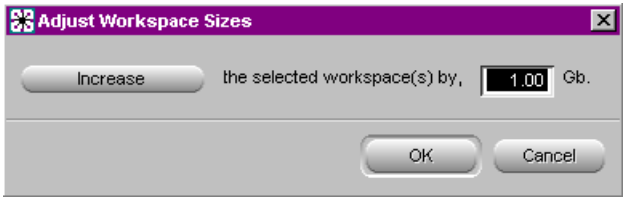
- From the workspace list, press and hold the Alt key (on the server or a Windows client) or the Option key (on a Macintosh client) while dragging the workspace resize handles. You can also type a value in a workspace’s Size text box.

To adjust the size of multiple workspaces:

1. Open the Administration Tool, and click the Workspace Management button. For more information on opening the Administration Tool, see "Opening the Administration Tool" on page 72.
2. Select the workspaces you want to adjust.
3. Do one of the following:

   - Click the Adjust Workspace Sizes button.
   - Choose Adjust Workspace Sizes from the Commands menu.

   The Adjust Workspace Sizes dialog box opens.



4. Click Increase or Decrease.
5. Type a value in the text box.
6. Click OK.

The Administration Tool might report that a workspace's capacity has been completely used, even though Windows Explorer shows that the workspace still has some room available. This is the result of the File Manager distributing its data across all of the drives in the data drive set. If you encounter this situation, Avid recommends you back up some of your data and then remove it from the data drive set to make room for new files.

Renaming Workspaces

You can rename a workspace at any time, even when it is being used by client workstations. The only effect on users is that the workspace name will be different the next time they need to mount it.

*The following characters are illegal in workspace names: \, /, :, *, ?, ", <, >, and |. If you type an illegal character, the system beeps and the character is ignored.*

To rename a workspace:

1. Open the Administration Tool, and click the Workspace Management button. For more information on opening the Administration Tool, see "Opening the Administration Tool" on page 72.
2. Click the workspace name you want to change and type a new name (maximum of 27 characters).
3. Press Enter (Windows) or Return (Macintosh) or click elsewhere in the workspace list to effect the change. If you do not type a name or type a duplicate name, the name is not changed.

Deleting Workspaces

You can delete workspaces that are not currently mounted on any clients. You can delete multiple workspaces at the same time.

When you delete a workspace, all media stored there is lost. Before deleting a workspace, make sure that its media is no longer needed, is moved, or is backed up.

To delete a workspace:

1. Open the Administration Tool, and click the Workspace Management button. For more information on opening the Administration Tool, see "Opening the Administration Tool" on page 72.
2. Select the workspace or workspaces you want to delete.

Ensure that the workspace is not currently mounted on any clients. To do this, check access from the Connection Monitor window of the Administration Tool. Then ask any client with that workspace mounted to unmount it.

3. Do one of the following:

   - Click the Delete Workspace button.
   - Choose Delete Workspace from the Commands menu.

   A dialog box opens, prompting you to confirm that you really want to delete the workspace.

4. Click OK.

   The workspace is deleted.

Protecting Workspaces

The protection feature offers a high level of data integrity (at the cost of doubling drive space requirements) by storing duplicates of all media files. This allows data drive sets with malfunctioning drives containing protected media files to be repaired quickly without data loss.

For more information on protecting workspaces, see the following sections:

- Workspace Protection Recommendations
- Capacity of Odd Number of Drives
- Enabling Protection of New Files Only
- Disabling Protection of New Files Only
- Synchronizing All Files

Workspace Protection Recommendations

Because of the potential impact of a drive failure, Avid recommends protecting all your workspaces whenever possible. If you want to ensure protection of your files at all times, *always* use the Enable Protection option when creating new workspaces (before any files are stored on the workspace) and *never* use the Unprotect All Files option.

If you are not sure that all files on a given workspace are protected, select the workspace and click Protect All Files. This enables protection for all new files added to the workspace, and adds protection to any existing files in the workspace that are not already protected.

The File Manager allows MediaNetwork clients to mount protected workspaces that have more than one drive missing from the workspace's allocation group. However, protected allocation groups with more than one drive missing are unstable. Some or all of the files the allocation groups contain might not be available for use. The administrator should repair these workspaces at the earliest opportunity.

When you are deciding to use protection, Avid recommends you consider the following:

- Allocation groups with an even number of drives provide the best performance and the best data distribution for all video resolutions.
- Allocation groups with an odd number of drives might not provide adequate performance for some video resolutions, such as 1:1 or 2:1.
- If you *are not* going to protect a workspace, the allocation group can contain any number of data drives.

To enable protection for a workspace:

1. Open the Administration Tool, and click the Workspace Management button. For more information on opening the Administration Tool, see "Opening the Administration Tool" on page 72.
2. Select the workspace you want protected.
3. Do one of the following:

   - Click the Enable Protection button.
   - Select Enable Protection from the Commands menu.

   Protection is enabled for the workspace.

Protecting New Files Versus Protecting Existing Files

The differences between protecting new files versus protecting existing files follow:

- **Enable Protection/Disable Protection** — Switching this setting takes place instantaneously and only affects files written to the workspace from that point onward; existing files are not affected. When set, all new files written to the workspace are protected; existing files are not affected.
- **Synchronizing Files** — These operations allow you to protect or unprotect all existing files on a workspace and to set the protection state of the workspace (enabled or disabled) to match.

Capacity of Odd Number of Drives

When you have an allocation group with an odd number of drives and you protect the workspaces in the allocation group, the workspaces can report that they are full even though there appears to be available free space. This is caused by the primary data drives in the allocation group having one less drive than the secondary data drives. The Administration Tool and any mounted workspaces report the free space that is available on the secondary data drives.

If you encounter this problem, you should move some data to another workspace or resize the workspace, if additional space is available, to create some free space for new files.

Enabling Protection of New Files Only

To enable protection of new files for a workspace:

1. Open the Administration Tool, and click the Workspace Management button. For more information on opening the Administration Tool, see "Opening the Administration Tool" on page 72.
2. Select an unprotected workspace.
3. Click Enable Protection to enable protection for the selected workspace.

   The Protected Workspace icon replaces the Unprotected Workspace icon in the workspace list.
4. If the selected workspace contains existing files that are not already protected and you want them to be, you will need to synchronize files. For more information, see "Synchronizing All Files" on page 107.

Enabling protection of new files for a workspace does not cause all existing files on that workspace to be protected. This will not happen until you perform the Synchronize All Files operation.

Disabling Protection of New Files Only

To disable protection of new files for a workspace:

1. Open the Administration Tool, and click the Workspace Management button. For more information on opening the Administration Tool, see "Opening the Administration Tool" on page 72.
2. Select a protected workspace.
3. Click Disable Protection to disable protection for the selected workspace.

   The Unprotected Workspace icon replaces the Protected Workspace icon in the workspace list.
4. If the selected workspace contains existing files that are already protected and you do not want them to be, you will need to synchronize files.

Synchronizing All Files

When you synchronize files, they inherit the workspace setting. For example, when you synchronize files on a *protected* workspace, all the files become protected.

To synchronize all files on a workspace:

1. Open the Administration Tool, and click the Workspace Management button. For more information on opening the Administration Tool, see "Opening the Administration Tool" on page 72.
2. Select the workspace whose files you to synchronize.
3. Do one of the following:

   - Click the Synchronize All Files button.
   - Select Synchronize All Files from the Commands menu.

   A progress indicator appears, showing how many files remain to be synchronized.

Once all the files have been synchronized, the progress indicator closes.

Optimizing Workspaces

Clients should unmount or unmap the affected workspace until the optimization is complete. Optimization is an operation that ensures all files on a workspace are evenly striped across the drives in the allocation group to provide optimal file system performance. Optimization is necessary whenever you:

- **Add drives to or remove drives from an allocation group** — The Administration Tool can optimize all the workspaces on the allocation group automatically, but gives you the option to perform the optimization manually later. See "Adding Drives to Allocation Groups" on page 89 and "Removing Drives from Allocation Groups" on page 90.
- **Move a workspace from one allocation group to another** — Optimization is an integral part of moving the workspace. Therefore, you do not need to perform a manual optimization unless the move is canceled or fails for some reason. See "Moving Workspaces" on page 109.

When you optimize, you make a copy of a file on a nearly full workspace or drive, move it to an emptier workspace or drive, then delete the original. You *must* maintain sufficient free space on your workspace or drive to make a copy of your largest file, or optimization will fail.

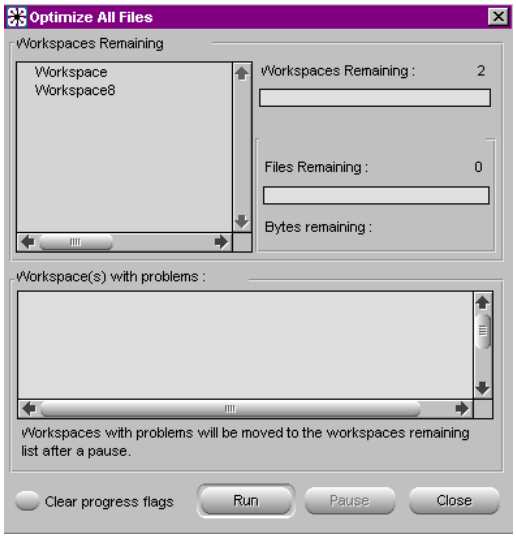
If you try to use Avid Composer Products software to access a workspace that is undergoing an optimization, you can cause the Avid Composer Products software to hang or crash. This can prevent you from obtaining future access to some or all of the files on the workspace until you delete the .mdb and .pmr files from the OMFI MediaFiles subfolder.

To optimize workspaces:

1. Open the Administration Tool, and click the Workspace Management button. For more information on opening the Administration Tool, see "Opening the Administration Tool" on page 72.
2. Do one of the following:

   - Click the Optimize All Files button.
   - Select Optimize All Files from the Commands menu.

   The Optimize All Files dialog box opens.



3. Select the workspace you want optimized. Shift+click to select multiple workspaces.
4. Click Run.

   Two progress indicators appear, showing the number of workspaces and the number of files remaining to be optimized.

   If a workspace has a problem, it will be moved from the Workspace Remaining list to the Workspace(s) with Problems list.
5. (Option) Click the Pause button to halt the process, then click Run to resume.

Moving Workspaces

To move a workspace and all its contents to another allocation group:

1. Open the Administration Tool, and click the Workspace Management button. For more information on opening the Administration Tool, see “Opening the Administration Tool” on page 72.
2. Do one of the following:

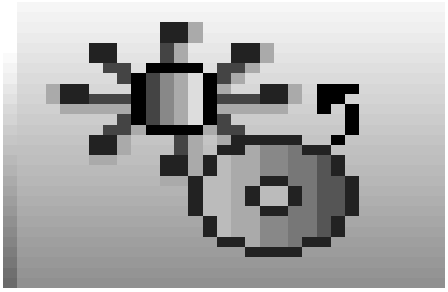
   - Click the Move Workspace button.
   - Select Move Workspace from the Commands menu.
3. Select the workspace you want to move.

4. Click the Allocation Group Management button.

   A dialog box opens, warning you that the workspace must be optimized as part of the operation. For more information, see "Optimizing Workspaces" on page 108.

5. Click OK.

   The Select Allocation Group dialog box opens.



6. Select the allocation group onto which you want to move the workspace.
7. Click OK.

The workspace is moved. Existing files are moved and new files written to the workspace are written to the destination allocation group.

Collecting Workspace Statistics

You can export Workspace Management window statistics to a comma separated value (CSV) file, which can then be opened in Microsoft® Excel. This provides you with system snapshot of workspace names, workspace sizes, allocated space, the number of files in the workspace, and so on.

To create a .csv file:

1. Open the Administration Tool, and click the Workspace Management button. For more information on opening the Administration Tool, see "Opening the Administration Tool" on page 72.
2. Select Export Statistics from the Commands menu.
3. Save the .csv file.

To open the .csv file in Excel:

1. Open your Excel application.
2. Navigate to the .csv file.
3. Import the file into Excel, then save it.

Here is an example of a CSV file opened in Excel:

	A	B	C	D	E	F	G	H	I	J
1	Name	Size	Avail	Max	Used	P. Used	Mirrored	Files	Dirs	P. Sys
2	9 Gb Group	33.51	0.21		33.3	99.40%		91	3	
3	fwefwefewf	3.77	3.77	3.87	0	0.00%	0	0	0	2.00%
4	sadfsdvdsf	3.5	3.5	3.6	0	0.00%	0	0	0	1.90%
5	sdfsdfdsf	1	1	1.11	0	0.00%	0	0	0	0.50%
6	Workspace	3.08	2.08	3.29	1	32.50%	0.81	90	3	1.70%
7	Workspace1	2	2	2.21	0	0.00%	0	1	0	1.10%
8	Workspace2	1.94	1.94	2.15	0	0.00%	0	0	0	1.00%
9	Workspace6	1	1	1.11	0	0.00%	0	0	0	0.50%
10	Workspace10	1	1	1.21	0	0.00%	0	0	0	0.50%
11	Workspace11	1	1	1.11	0	0.00%	0	0	0	0.50%
12	Workspace64	1.97	1.97	2.07	0	0.00%	0	0	0	1.10%

If you want to generate statistics for billing purposes, Avid recommends that you install the billing server software.

Chapter 8

Managing User Accounts and Access Privileges

User accounts limit clients' access to the file system. This chapter describes how to assign user accounts with associated passwords and access privileges to accommodate projects, employees, or clients (strategies for which are outlined in the *Avid Unity MediaNetwork System Overview*).

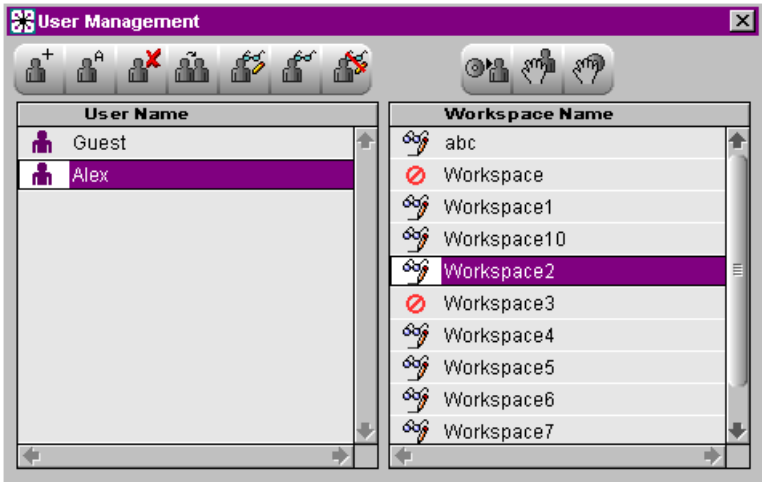
This chapter discusses:

- The User Management Window
- Creating User Accounts
- Configuring User Accounts and Permissions
- Duplicating User Accounts
- Modifying User Accounts
- Deleting User Accounts
- Disabling Guest Accounts
- Workspace Access Privileges
- Changing Workspace Access Privileges

The User Management Window

This section provides an overview of the User Management window and the operations that you can perform from it. The remainder of this chapter contains detailed, task-oriented descriptions of all user-related operations.

The User Management window contains a User Name list and a Workspace Name list. These lists allow you to easily select user accounts for renaming or deletion and to manipulate access privileges for selected user accounts and workspaces.



Creating User Accounts

New user accounts inherit their attributes (name, password, and access privileges) from the User Management preferences. For more information, see "Setting User Account Preferences" on page 78.

When you create user names and passwords, consider the following:

- Avid recommends that user names and passwords (which are case-sensitive) match *exactly* for a MediaNetwork user account and a Windows user account.

- If your MediaNetwork workgroup has one or more PortServers and a number of Ethernet clients, Avid recommends that you use domain user accounts (not local user accounts) for the PortServer and Ethernet clients.
- When you create new user accounts on a PortServer Pro, Avid recommends that you *do not* select the “Change password at next logon” option. Instead, select the “Password never expires” option.

To create new user accounts:

1. Open the Administration Tool, and click the User Management button. For more information on opening the Administration Tool, see “Opening the Administration Tool” on page 72.
2. Do one of the following:

   - Click the New User button.
   - Select New User from the Commands menu.

   The New User dialog opens, containing the default information specified in your user preferences.

Create user names and passwords that match exactly for a MediaNetwork user account and a Windows user account.

3. Type a name.
4. Type a password, then type it again for confirmation.
5. Select the user account's privileges.
6. Select the user account's workspace access privileges.
7. Click Create.

Number of Users Versus Licensed Client Seats

The Administration Tool allows the administrator to create up to 300 user accounts, plus the Guest account. The user accounts are listed in the Users tab of the Administration Tool. Although 300 user accounts can be created, the application key (often called a dongle) attached to your File Manager dictates how many clients can access the MediaNetwork workgroup simultaneously. The File Manager maintains a record of the Fibre Channel attached clients and the Ethernet attached clients.

To determine the number of users that can connect to your MediaNetwork workgroup, use the Avid Unity Profiler on the File Manager to view the application key setting for the number of users.

Configuring User Accounts and Permissions

This section assumes you are a Windows network administrator with a working knowledge of managing Windows users, groups, and permissions. Windows user accounts and permissions can be local to a PortServer or a LANserver EX, or supplied by a Windows domain (if the PortServer or LANserver EX is part of a network). For more information about Windows users, groups, and permissions, contact your network administrator or consult the Windows Help system.

This section also assumes that you are familiar with MediaNetwork system administration and understand how to create user accounts with passwords and how to assign user permissions to workspaces.

On the PortServer, the Avid Unity PortServer service matches MediaNetwork users and Windows users or groups to validate access to MediaNetwork workspaces. When the PortServer service finds a match between a MediaNetwork user account and a Windows user account or group, it applies the appropriate permissions to each MediaNetwork workspace to which the user has access. The requested workspaces can then be mounted on the MediaNetwork client.

On the LANserver EX, the Connection Manager performs the same tasks. When the Connection Manager cannot find a match between a MediaNetwork user account and a Windows user account or group, it displays a Login dialog box asking you to type a valid Windows/MediaNetwork user account and password. If these are not supplied, the user login request is denied.

The following examples provide information about how and where to create the necessary user accounts for MediaNetwork and Windows.

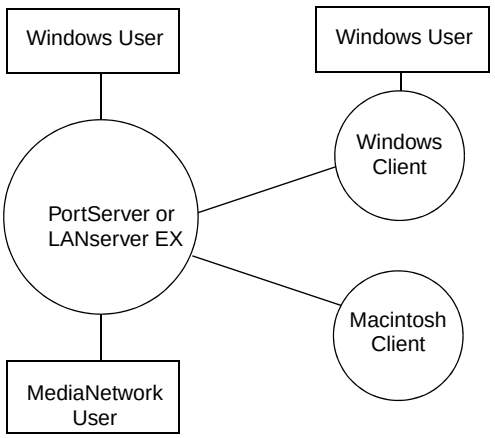
Example 1 – Standalone Workgroup Using Local User Accounts

For this example, you are creating a standalone workgroup and want to allow individual users access to MediaNetwork workspaces. In this workgroup, you need to create three user accounts:

- A MediaNetwork user account for each Windows and Macintosh user on the PortServer or the LANserver EX
- A Windows user account for each Windows and Macintosh user on the PortServer or the LANserver EX
- A Windows user account for each user on the Windows client

No user account is required on a Macintosh client.

The MediaNetwork user account and the Windows user account *must* have the same user name and password to allow users to log in and set permissions. Users should log in to the client by using their client user account and password. Figure “Standalone User Accounts” on page 118 shows where the Windows and MediaNetwork user accounts are created.



Standalone User Accounts

For this example, you have several people working on different projects that need access to different workspaces. You could create all the user accounts in the following manner:

- On the PortServer or the LANserver EX, create a MediaNetwork user account “Fred” with a password of “seven.” Assign this account read/write permission to the necessary MediaNetwork workspaces, and read or no access permission to other workspaces on the PortServer or the LANserver EX.
- On the PortServer or the LANserver EX, create a Windows user account “Fred” with a password of “seven.”
- On the client, create a Windows user account “Fred” with a password of “seven.”

Example 2 – Standalone Workgroup Using Local Groups

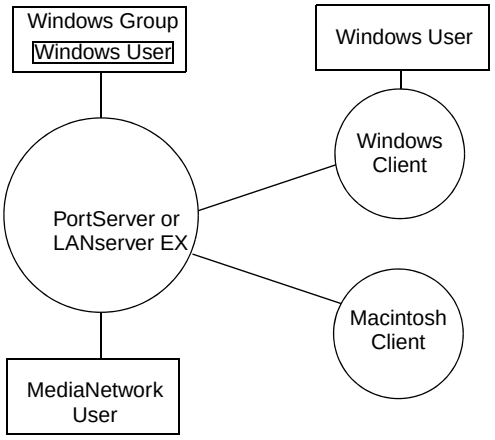
For this example, you are creating a standalone workgroup and want to allow a group of users access to MediaNetwork workspaces. In this workgroup, you need to create three user accounts and one Windows group:

- A MediaNetwork user account for the group on the PortServer or the LANserver EX
- A Windows group on the PortServer or the LANserver EX

- A Windows user account for each Windows and Macintosh user on the PortServer or the LANserver EX
- A Windows user account for each user on the Windows client

No user account is required on a Macintosh client.

The MediaNetwork user account and the Windows group (on the PortServer or the LANserver EX) and the Windows user accounts (on the PortServer or the LANserver EX and the Windows client) *must* have the same name to allow users to log in and set permissions. Users should log in to the client by using their client user account and password. Figure "Standalone User Accounts and Groups" shows where the Windows and MediaNetwork user accounts and the Windows group are created.



Standalone User Accounts and Groups

For this example, you want to give several people working on a project access to the same workspaces with the same permissions. You could create all the user accounts in the following manner:

- On the PortServer or the LANserver EX, create a MediaNetwork user account "ProjectA" with a password of "six." Assign this account read/write permission to the necessary MediaNetwork workspaces, and read or no access permission to other workspaces on the PortServer.

- On the PortServer or the LANserver EX, create a Windows user account “Fred” with a password of “seven” and a Windows user account “Jill” with the password “twelve.”
- On the PortServer or the LANserver EX, create a Windows group “ProjectA.” Add “Fred” and “Jill” to the “ProjectA” group.
- On the client, create a Windows user account “Fred” with a password of “seven” and a Windows user account “Jill” with the password “twelve.”

Example 3 – Network Workgroup Using Domain User Accounts

For this example, you are creating a network PortServer or LANserver EX workgroup (the PortServer or the LANserver EX is part of a Windows domain) and want to allow individual users access to MediaNetwork workspaces. In this workgroup, you need to create two user accounts:

- A MediaNetwork user account for each Windows and Macintosh user on the PortServer
- A Windows user account for each Windows and Macintosh user on the domain server

No user account is required on a Macintosh client.

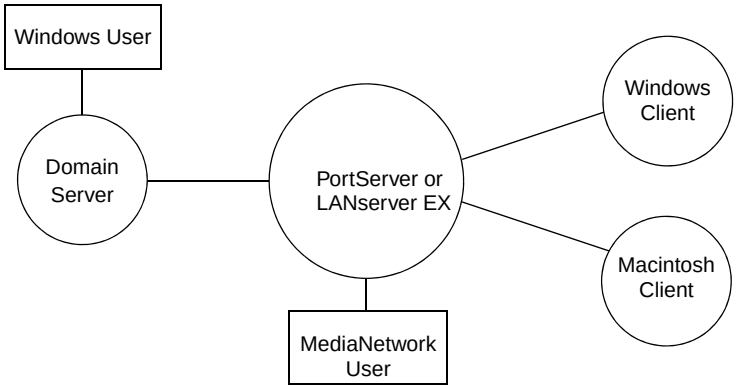
The PortServer and all of its clients must be a part of the same Windows domain.

The MediaNetwork user account and the Windows user account *must* have the same user name and password to allow users to log in and set permissions. Users should log in to the client by using their Windows domain user account and password. Figure “Network User Accounts” on page 121 shows where the Windows and MediaNetwork user accounts are created.

For this example, you have several people working on different projects that need access to different workspaces. You could create all the user accounts in the following manner:

- On the PortServer or the LANserver EX, create a MediaNetwork user account “Fred” with a password of “seven.” Assign this account read/write permission to the necessary MediaNetwork workspaces, and read or no access permission to other workspaces on the PortServer or the LANserver EX.

- On the Windows domain server, create a Windows user account “Fred” with a password of “seven.”



Network User Accounts

Example 4 – Network Workgroup Using Domain Groups

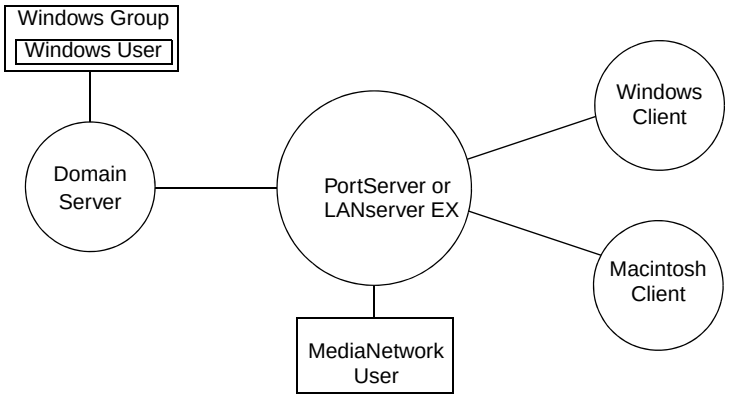
For this example, you are creating a network PortServer or LANserver EX workgroup (the PortServer or the LANserver EX is part of a Windows domain) and want to allow users access to MediaNetwork workspaces. In this workgroup, create two user accounts and one Windows group:

- A MediaNetwork user account for the group on the domain
- A Windows group on the domain server
- A Windows user account for each Windows and Macintosh user on the domain server

No user account is required on a Macintosh client.

The PortServer or the LANserver EX and all of its clients must be a part of the same Windows domain.

The MediaNetwork user account and the Windows group *must* have the same name to allow users to log in and set permissions. Users should log in to the client by using their Windows domain user account and password. Figure “Network User Accounts and Groups” on page 122 shows where the Windows and MediaNetwork user accounts and the Windows group are created.



Network User Accounts and Groups

For this example, you want to give several people working on a project access to the same workspaces with the same permissions. You could create all the user accounts in the following manner:

- On the PortServer or the LANserver EX, create a MediaNetwork user account “ProjectA” with a password of “six.” Assign this account read/write permission to the necessary MediaNetwork workspaces, and read or no access permission to other workspaces on the PortServer or the LANserver EX.
- On the Windows domain server, create a Windows user account “Fred” with a password of “seven” and a Windows user account “Jill” with the password “twelve.”
- On the Windows domain server, create a Windows group “ProjectA.” Add “Fred” and “Jill” to the “ProjectA” group.

Local groups and users take precedence over domain groups and users of the same name. Avoid same-name conflicts when setting up user accounts.

Duplicating User Accounts

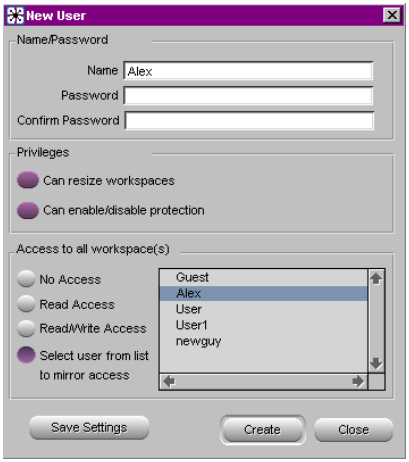
When you duplicate user accounts, they inherit the name and access privileges of the user account from which they were created.

To duplicate a user account:

1. Open the Administration Tool, and click the User Management button. For more information on opening the Administration Tool, see “Opening the Administration Tool” on page 72.
2. Select the user account you want to duplicate.

3. Click the Duplicate User button.

   The New User dialog box opens, containing information on the account you want to duplicate.



4. Click the Create button to duplicate the selected user account. The new user account has the same name as the original with the lowest available integer as a suffix (for example, a duplicate of user account *Original Name* will be named *Original Name 1*) and inherits the access privileges of the original user account.
5. (Option) Change the user account’s name. For more information, see “Modifying User Accounts” on page 124.
6. (Option) Change the new user account password. For more information, see “Modifying User Accounts” on page 124.
7. (Option) Change the user account’s privileges. For more information, see “Modifying User Accounts” on page 124.
8. (Option) Change the new user account workspace access privileges. For more information, see “Changing Workspace Access Privileges” on page 127.

Modifying User Accounts

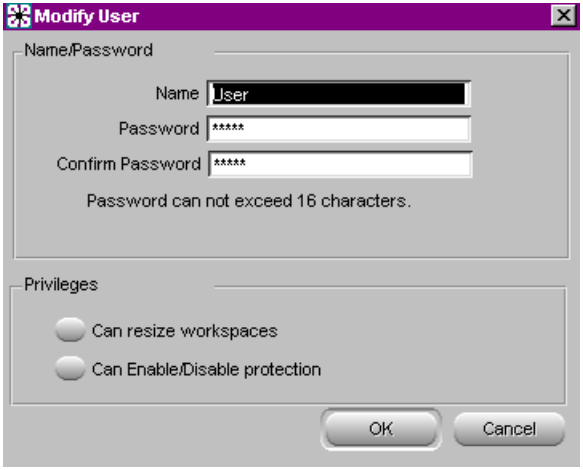
You can rename an account, change the password, and edit privileges with the Modify User dialog box. You can modify a user account at any time, even when it is being actively used in your work environment.

*The following characters are illegal in user account names: \, /, :, *, ?, ", <, >, and |. If you type an illegal character, the system beeps and the character is ignored.*

To modify a user account:

1. Open the Administration Tool, and click the User Management button. For more information on opening the Administration Tool, see "Opening the Administration Tool" on page 72.
2. Click the user account that you want to change. The user name is highlighted.
3. Do one of the following:
   - Click the Modify User button.
   - Select Modify User from the Commands menu.

   The Modify User dialog box opens.



4. (Option) Type a new user name up to 31 characters.
5. (Option) Type a new password, then type it again.

6. (Option) Click to enable privileges.
7. Click OK.

   If the name or password is a duplicate of an existing name or password, an error message will appear and the user account does not change.

Deleting User Accounts

To delete a user account:

1. Ensure that the user account to be deleted is not currently active by checking access from the Connection Monitor window in the Administration tool.
2. Open the Administration Tool. For more information on opening the Administration Tool, see "Opening the Administration Tool" on page 72.
3. Do one of the following:

   - Click the User Management button.
   - Select User Management from the Commands menu.
4. Select the user account you want to delete.

5. Click the Delete User button.

   If the user account is in use by a client, a message box opens, warning you of this and asking if you want to proceed. If you delete the user account, its connection to the File Manager is broken immediately and any mounted workspaces are unmounted as soon as they are accessed.

Disabling Guest Accounts

The Guest user account is created when you set up the File Manager. You cannot delete or rename this account, and there is no password. You can only disable the account.

To disable the Guest user account:

- Change its workspace access privileges to No Access (see "Changing Workspace Access Privileges" on page 127).

Workspace Access Privileges

The following table lists and describes the workspace access levels.

Workspace Access Levels

Access Level	Description
No Access	Workspace cannot be read, written to, or mounted.
Read Access	Workspace can be read but not written to.
Read/Write Access	Workspace can be read and written to.
Select User from list to mirror access	Copies the access rights of the selected user.

Default access privileges are initially assigned for each new user account and new workspace by using the default settings specified in your preferences (see "Setting User Account Preferences" on page 78). You can increase or decrease these defaults to provide customized access for each user to every workspace if necessary.

For example, you might need to increase the access privileges for a user who does not have write access to the appropriate workspace, or for a workspace that does not provide the appropriate access to one or more users.

Consider the following for access privileges:

- As access privileges are increased, the newly accessible workspaces are immediately mountable.
- If a user has a workspace mounted with read-only privileges, and is granted read/write privileges, the new privileges apply immediately, without remounting the workspace.
- If a user is already at the workspace selection stage when the access privileges are removed, then newly inaccessible workspaces will remain in the display. However, attempting to actually mount the workspaces will be unsuccessful.

- If a user has a workspace mounted with read/write privileges, and these are reduced to read-only privileges, the new privileges apply immediately, without remounting the workspace. If a file is open for writing, the user retains write privilege to that file until it is closed.
- If a user has a workspace mounted and their privileges to that workspace are reduced to none, then the workspace will be automatically unmounted the next time that workspace is accessed. If there are files open when the workspace is unmounted, they will be closed.

Changing Workspace Access Privileges

You can use the following procedure to change access privileges for *multiple* users and workspaces at the same time.

To change access privileges:

1. Open the Administration Tool. For more information on opening the Administration Tool, see "Opening the Administration Tool" on page 72.
2. Do one of the following:

   - Click the User Management button.
   - Select User Management from the Commands menu.
3. Select a user and a workspace.
4. Click the button that reflects the level of access you want to grant (No access, Read-only access, or Read/Write access).

   The access level is applied to all selected users and workspaces.

Chapter 9
Monitoring System Usage and Messages

This chapter describes how to use the Connection Monitor and how to view and manage the log file.

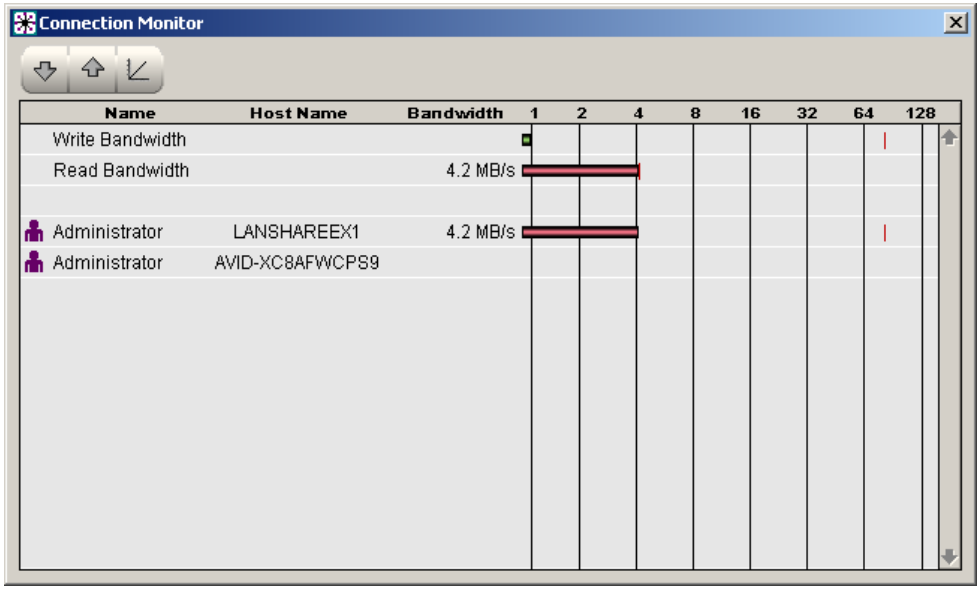
This chapter discusses:

- The Connection Monitor Window
- Changing the Monitor List Graph Display
- The Log File
- Viewing and Managing the Log File

The Connection Monitor Window

The Connection Monitor allows you to monitor system usage, including total system bandwidth use, active clients, and bandwidth consumption of each client.

The Write Bandwidth and Read Bandwidth objects in the *monitor list* show total read bandwidth (green bar by default) and total write bandwidth (red bar by default), respectively (in MB/s).



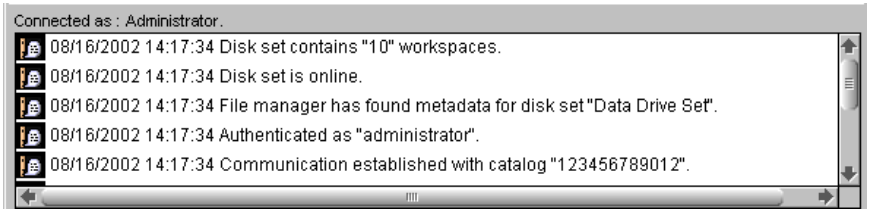
Below the Write Bandwidth and Read Bandwidth objects, the monitor list displays each active client, showing which users are currently using the system, the client at which they are logged in, and their most active current activity.

Changing the Monitor List Graph Display

The monitor list represents bandwidth consumption for the system and individual client workstations in the form of horizontal bars in a graph display. For information on how to customize your monitor list graph display, see "Changing the Workspace List Graph Display" on page 98.

The Log File

The Log file displays a scroll list of error, warning, and informational messages logged during the current Administration Tool session. While the Administration Tool session is open, the log file appears in the message area.


Connected as : Administrator.
08/16/2002 14:17:34 Disk set contains "10" workspaces.
08/16/2002 14:17:34 Disk set is online.
08/16/2002 14:17:34 File manager has found metadata for disk set "Data Drive Set".
08/16/2002 14:17:34 Authenticated as "administrator".
08/16/2002 14:17:34 Communication established with catalog "123456789012".

The following icons indicate the message types:

Icon	Message Type
	Error
	Warning
	Informational

Viewing and Managing the Log File

When you quit the Administration Tool, the event log is stored in a file called *AdministrationLogTool.txt, located* in the install directory on the File Manager's or client's local drive (depending on where you are running the Administration Tool).

You can use a standard text-editing application to view the AdministrationLogTool.txt file.

The information stored in *AdministrationLogTool.txt* is cumulative. To keep the file manageable, you should copy it to a floppy disk once a day, week, or month (depending on your environment's level of activity), and delete the old copy. A new version will be created the next time you open the Administration Tool.

Appendix A

Managing Drive Problems

This appendix describes troubleshooting techniques to manage drive problems in your online environment.

This appendix discusses:

- Overview
- Identifying Bad Drives
- Replacing the Data Drive Set
- Recovering and Replacing a Drive

Overview

The following are two scenarios that you can use to help manage your drives to determine if they should be replaced.

1. Wait until a drive fails
2. Monitor the drives and attempt to replace drives that seem to be slowing up or causing some type of problem but have not yet failed outright.

No matter which decision you make, only the MEDIArray enclosure allows you to replace a failing drive with power on.

To replace a MEDIArray drive with power on you must have the following:

- A spare drive that is the same size within the same data disk set that contains the failing drive, before the drive failure occurs.
- The Windows 2000 operating system running on your File Manager (and Fail-over File Manager if you have one)
- You follow the procedures exactly as described.

Identifying Bad Drives

There are two programs that you can use to help determine disk problems:

- Disk Error Analyzer
- MEDIArray ZX Viewer

The name of the MEDIArray ZX Viewer has not been changed to MEDIArray Viewer, but works the same on the MEDIArray enclosure.

Using the Disk Error Analyzer

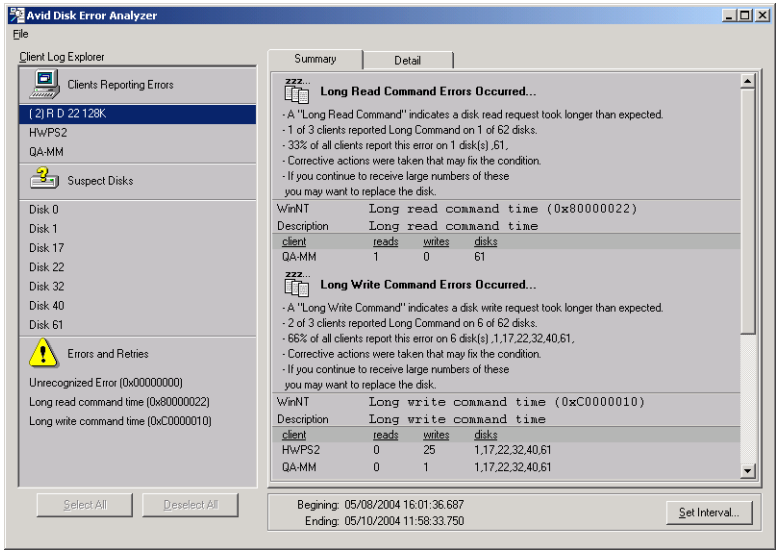
If drive problems occur, a “Drive Error Analysis Needed” message will appear in the File Manager Status tab of the Monitor Tool.

Run the Disk Error Analyzer utility when you see this message, which will identify any drive problems in your environment. You can obtain additional information to help you identify problem drives from the File Status tab of the Monitor Tool, which shows the locations of bad blocks in damaged files.

You run the Disk Error Analyzer from the File Manager console.

To start and run the Disk Error Analyzer:

1. Click the Start button > Programs > Avid Unity, and click Disk Error Analyzer.
2. Open the UnityClientLog.txt file.


Avid Disk Error Analyzer
File
Client Log Explorer
Clients Reporting Errors
(2) R D 22 128K
HWPS2
QA-MM
Suspect Disks
Disk 0
Disk 1
Disk 17
Disk 22
Disk 32
Disk 40
Disk 61
Errors and Retries
Unrecognized Error (0x00000000)
Long read command time (0x80000022)
Long write command time (0xC0000010)
Select All
Deselect All
Summary
Detail
Long Read Command Errors Occurred...
- A "Long Read Command" indicates a disk read request took longer than expected.
- 1 of 3 clients reported Long Command on 1 of 62 disks.
- 33% of all clients report this error on 1 disk(s) ,61,
- Corrective actions were taken that may fix the condition.
- If you continue to receive large numbers of these
you may want to replace the disk.
WinNT Long read command time (0x80000022)
Description Long read command time
client reads writes disks
QA-MM 1 0 61
Long Write Command Errors Occurred...
- A "Long Write Command" indicates a disk write request took longer than expected.
- 2 of 3 clients reported Long Command on 6 of 62 disks.
- 66% of all clients report this error on 6 disk(s) ,1,17,22,32,40,61,
- Corrective actions were taken that may fix the condition.
- If you continue to receive large numbers of these
you may want to replace the disk.
WinNT Long write command time (0xC0000010)
Description Long write command time
client reads writes disks
HWPS2 0 25 1,17,22,32,40,61
QA-MM 0 1 1,17,22,32,40,61
Begining: 05/08/2004 16:01:36.687
Ending: 05/10/2004 11:58:33.750
Set Interval...

Note that this example shows two error types.

Long Read Commands and Long Write Commands.

They both have similar, but different examples of what to do.

3. Read the steps suggested by the data from the drive analysis and use it to recover your data drive set.

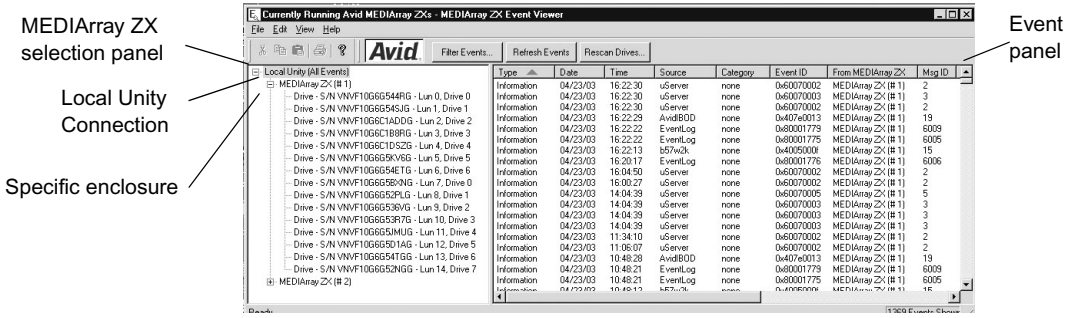
Using the MEDIArray ZX Viewer

This section explains how to use the viewer to determine if one of the drives within the MEDIArray ZX has failed or is taking a long time to respond to commands. If you find a drive that seems to be going bad, you can replace the drive before it actually fails.

Selecting Events to View

The viewer, shown in the following figure, contains two panels:

- MEDIArray ZX selection panel — contains a tree-view that displays a hierarchical view of all the MEDIArray ZX enclosures found by the viewer.
- Event panel — displays different types of events and information from the MEDIArray ZX enclosures.


MEDIArray ZX selection panel
Local Unity Connection
Specific enclosure
Event panel
Currently Running Avid MEDIArray ZXs - MEDIArray ZX Event Viewer
File Edit View Help
Avid
Filter Events...
Refresh Events
Rescan Drives...
Local Unity (All Events)
MEDIArray ZX (# 1)
Drive - S/N VNVF10G6G544RG - Lun 0, Drive 0
Drive - S/N VNVF10G6G545JG - Lun 1, Drive 1
Drive - S/N VNVF10G6C1ADDG - Lun 2, Drive 2
Drive - S/N VNVF10G6C1B8RG - Lun 3, Drive 3
Drive - S/N VNVF10G6C1DSZG - Lun 4, Drive 4
Drive - S/N VNVF10G6G5KV6G - Lun 5, Drive 5
Drive - S/N VNVF10G6G54ETG - Lun 6, Drive 6
Drive - S/N VNVF10G6G5BXNG - Lun 7, Drive 0
Drive - S/N VNVF10G6G52PLG - Lun 8, Drive 1
Drive - S/N VNVF10G6G536VG - Lun 9, Drive 2
Drive - S/N VNVF10G6G53R7G - Lun 10, Drive 3
Drive - S/N VNVF10G6G5JMUG - Lun 11, Drive 4
Drive - S/N VNVF10G6G5D1AG - Lun 12, Drive 5
Drive - S/N VNVF10G6G54TGG - Lun 13, Drive 6
Drive - S/N VNVF10G6G52NGG - Lun 14, Drive 7
MEDIArray ZX (# 2)
Type
Date
Time
Source
Category
Event ID
From MEDIArray ZX
Msg ID

MEDIArray ZX Event Viewer Window

You can select what events to view in the Events panel in two ways

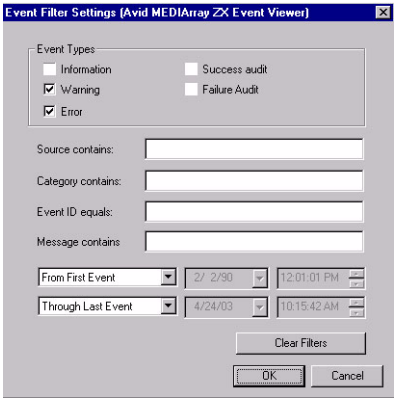
- Events for all MEDIArray ZX enclosures by selecting the Local Unity Connections in the MEDIArray ZX selection panel (the highest of the tree-view).
- Events for only one MEDIArray enclosures by selecting a specific MEDIArray ZX enclosure or drive within the enclosure in the MEDIArray ZX selection panel.

If you select only one specific drive within the MEDIArray ZX enclosure you still see events for all drives within the MEDIArray ZX enclosure.

Filtering Events

The Filter Events button above the Event panel allows you to narrow the events displayed in the Event panel by applying filters. When you use the filters, they apply regardless of whether all MEDIArray ZX enclosures are selected or just one.

When you click the Filter Events button a dialog box opens.



Filter Events Dialog Box

To find failing drives and drives that are taking a long time to respond to commands, Avid suggests that you only select the following filters:

- Warning
- Error

After you select the proper filters you can click on the Type tab in the Event panel of the viewer to further select only the Error or Warning events to be displayed in the Event panel.

Detecting Slow or Failed Drives

Once you have applied the Warning and Error filters to the events displayed in the Event panel you need to detect whether you have a failing drive or a drive that is responding slowly to commands.

Detecting a Slow Responding Drive

To detect if you have a drive that is responding slowly in a MEDIArray ZX you need to look at certain areas of the Event panel.

To start the viewer and detect a slow drive:

The drive letter is the letter of the drive used as storage for the Avid Unity application.

1. Browse to *drive_letter*/Program Files/Avid Technology/Avid Unity and double click IBEView.exe.
2. Select Local Unity Connection in the in the MEDIArray ZX selection panel.
3. Click *Type* tab in the Event panel until you see the Warning events displayed.
4. The information in the *Source* tab located in the Event panel must be “Avid MEDIArray ZX”. This is the software that detected the failure.
5. The information in the *From MEDIArray ZX* tab displays the failing MEDIArray ZX enclosure.
6. The message in the *Message* tab will display:
   - Long Command with the command type (Write, Read, or Inquiry) took more than 750 ms.

You normally only need to worry about the Write and Read commands responding slowly in the Message tab.

   - LUN #
   - Serial # of the drive
   - Amount of time the drive took to respond to the command
7. Once you find the MEDIArray ZX and drive serial number that is responding slowly, you might consider replacing the drive, see “Replacing the Data Drive Set” on page 139.

Detecting a Failed Drive

To detect if you have a failed drive in the MEDIArray ZX you need to look at certain areas of the Event panel.

To start the viewer and detect a failed drive:

The drive letter is the letter of the drive used as storage for the Avid Unity application.

1. Browse to *drive_letter*/Program Files/Avid Technology/Avid Unity and double click IBEView.exe.
2. Select Local Unity Connection in the in the MEDIArray ZX selection panel.
3. Scroll until you see the Error events displayed.
4. The information in the *Source* tab located in the Event panel must be “3wDrv100”. This is the software that detected the failure.
5. The information in the *From MEDIArray ZX* tab displays the failing MEDIArray ZX enclosure.
6. The message in the *Message* tab will display the following:

   ISR<Failed Serial # and MEDIArray ZX #.
7. Once you find the MEDIArray ZX and drive serial number that has failed you can replace it, see “Replacing the Data Drive Set” on page 139.

Replacing the Data Drive Set

If you have a spare drive available and a spare drive of the same size already in any MEDIArray ZX enclosure, you can use the Setup Manager’s Recover Failed Data Drive operation to recover the data drive set after a data drive failure or before a failure occurs.

Before you begin an online drive recovery operation, you must have a known, good, same-sized spare drive available to use as the replacement for the bad drive.

An online drive recovery takes longer than an offline (manual) drive repair. While an online drive recovery is in progress, clients might see degraded performance.

How Online Drive Recovery Works

The Recover Failed Data Drive operation removes a malfunctioning data drive from the data drive set, replacing it with a good spare data drive, and then re-creating (as much as possible) the data that was on the old drive onto the new drive.

To do this, the Recover Failed Data Drive operation recovers data from:

- Duplicate file copies on other drives
- The drive being replaced if the duplicates cannot be read

To do this online, the repair function must remain aware of the fact that the mirrored copies of the blocks designated for the drive under repair are changing. It must make several passes to accommodate this, each pass picking up changes to these blocks that were made since the previous pass. At some point, the repair function must inhibit I/O for a brief period in order to make the final pass. Once complete, full bandwidth access is available to the file system.

Recovering and Replacing a Drive

The online drive recovery operation is designed to recover drives while your system remains online and without disconnecting clients. This significantly improves workflow because client machines no longer need to dismount workspaces during repairs.

When you perform an online drive recovery, remember the following:

- Clients that are not already connected to the MediaNetwork workgroup (by having a workspace mounted or by running the Administration Tool) are prevented from connecting to the workgroup until the recovery is complete. If a connected client logs off or crashes during disk repair, they will not be able to reconnect.
- Clients are denied write access at some point during online repair, while the File Manager locks the sets from writes in order to finish the repair.

- When you recover a drive that is part of a single-user allocation group, and the recovered drive is in another MEDIArray, the allocation group will experience degraded performance until the drive is moved to the same MEDIArray as the other drives in the allocation group. It is best to move the recovered drive at the same time you remove the bad drive.

Macintosh client workspaces will be dismounted at the end of the online drive recovery. In addition, Macintosh clients will need to restart the Administration Tool if it was running during the recovery process.

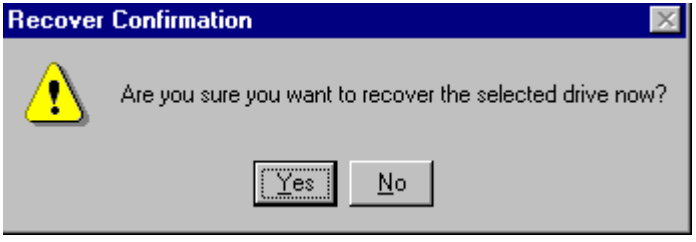
To perform an online drive recovery:

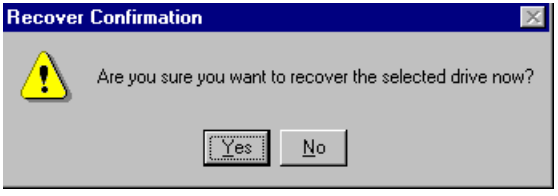
1. Click Start, point to Programs, point to Avid Unity, and then select Setup Manager.

   The Setup Manager window opens.

2. If the Data Drive Set group is not already selected in the drive group list, click its entry to display all the attached active and spare data drives.
3. Ensure that there is a spare, same-size data drive to replace the failed data drive.
4. Select the drive to be replaced along with the spare drive (by Ctrl+clicking both drives).
5. Choose Recover Failed Data Drive from the Recover menu.

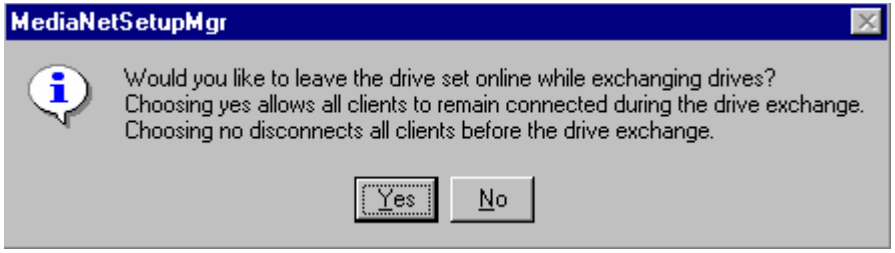
   The Recover Confirmation dialog box opens.





6. Click Yes to recover the selected drive.

   A dialog box opens, asking you to make a choice.


MediaNetSetupMgr
Would you like to leave the drive set online while exchanging drives?
Choosing yes allows all clients to remain connected during the drive exchange.
Choosing no disconnects all clients before the drive exchange.
Yes
No

7. Click Yes to start the online drive replacement or No if you want to do an offline replacement. No disconnects clients.

   A progress indicator appears, showing that the Setup Manager is performing an online drive recovery. Writing to disks is blocked for a brief period at the end of online recovery.

   When the data drive set has been recovered from an online repair, the progress indicator closes. A dialog box informs you that the previously spare drive will appear in the Data Drive Set group marked as active, and the previously active drive that was replaced will appear as a Replaced Drive colored purple.

   When complete you need to determine which physical drive is bad within the MEDIArray ZX enclosure.

8. Highlight the drive that was replaced (bad), and select Identify from the Drive Menu.

   This causes the selected drive in the MEDIArray ZX enclosure to blink for 15 seconds.

Any of the other drives can be blinking while transferring metadata. If possible you should watch when you select Identify to determine the actual drive that needs repair. You should make note of that drive to make sure you know which drive needs to be physically replaced. An example would be to place a small piece of tape on the front of the drive.

9. Highlight the replaced (bad) drive, right click the drive and select ‘Take drive offline from controller”.
10. Manually remove the problem drive from the MEDIArray ZX, replace it with a new disk drive, and wait for it to spin up.

The new disk drive is now a raw drive. You must continue with the procedure and use the Setup Manager software to make it a spare drive.

11. On your File Manager browse to:

    Install Directory\Program Files\Avid Technology\AvidUnity

The Install Directory is normally defaulted to D:.

12. Run the IBEView.exe.
13. Click the Rescan Drives button in the MEDIArray ZX viewer Window.

    The program displays a window and tells you when it finds the new raw drive you placed into the MEDIArray ZX.
14. If not already running, click Start and select Programs > Avid Unity > Setup Manager.

    The Setup Manager opens.
15. Select Raw Drives in the left panel.

    The raw drives discovered by the Setup Manager are displayed in the right panel of the window.
16. Select the raw drive in the right panel.
17. Select Drive > “Make Drive Spare”.

    The drive becomes a spare data drive and is moved from the Raw Drives group into the Data Drive Set group.
18. Close the Setup Manager.

    The File Manager now sees the drive as a spare.
19. When time permits you should shutdown all parts of the system in the following order:
    a. Clients
    b. File Manager
    c. MEDIArray ZX
20. You should then boot the components in the following order:
    a. MEDIArray ZX
    b. File Manager
    c. Client

Appendix B

Advanced Support Tools

This appendix lists the advanced support tools available for troubleshooting your environment.

Do not use these tools unless instructed to do so by Avid Customer Support. Improper use could result in system downtime or data loss.

This appendix discusses:

- The Server Log Viewer
- The Text Console
- The NtStatDump Tool
- The RecoverDisks Tool
- The Avid Unity Profiler Tool

The Server Log Viewer

Installed on the File Manager, the Server Log Viewer is a valuable tool that allows you to view the File Manager Log as it is buffered in memory. This log provides detailed status information that is especially useful to Avid Customer Support personnel for monitoring system status during prolonged operations.

To open the Server Log Viewer:

- On the File Manager console, click the Start button, point to Programs, point to Avid Unity, and then select Server Log Viewer.

The Text Console

The Text Console is a text-based administration application that allows you to monitor the status of your environment and to access a subset of the Administration Tool functionality.

Do not use this tool unless instructed to do so by Avid Customer Support. Improper use could result in system downtime or data loss.

For more information, see Appendix C.

The NtStatDump Tool

Installed on the File Manager, the NtStatDump tool displays information on the current state of the system, including clients, volumes, partitions, bad files, metadata, history, disks, memory, and errors.

Do not use this tool unless instructed to do so by Avid Customer Support. Improper use could result in system downtime or data loss.

To open NtStatDump:

- On the File Manager console, use Windows Explorer to navigate to the install directory, and then double-click NtStatDump.exe.

The RecoverDisks Tool

Installed on the File Manager, the RecoverDisks tool is used to recover the disk labels based on information from the RecoveryInfo.dat file.

Do not use this tool unless instructed to do so by Avid Customer Support. Improper use could result in system downtime or data loss.

To open RecoverDisks:

- On the File Manager console, use Windows Explorer to navigate to the install directory, and then double-click RecoverDisks.exe.

The Avid Unity Profiler Tool

Installed on the File Manager and all clients, the Avid Unity Profiler is a tool that detects the current versions of required software, drivers, and hardware components that are installed on a File Manager, Windows Fibre Channel clients, or a PortServer. The Profiler is typically used by Avid Customer Support to help determine problems with installed versions of the operating system, drivers, adapter boards, or firmware.

Do not use this tool unless instructed to do so by Avid Customer Support. Improper use could result in system downtime or data loss.

To run the Profiler:

- Click the Start button, point to Programs, point to Avid Unity, and then select Profiler.

Although the Profiler is also available on the MediaNetwork Release CD-ROM, it cannot be run directly from the CD-ROM. The Profiler can only be run from its installed location.

Appendix C

Using the Text Console for Remote Administration

This appendix describes the Text Console, a text-based administration application that allows you to monitor the status of your environment and to access a subset of the Administration Tool functionality.

Do not use the Text Console unless instructed to do so by Avid Customer Support. Improper use could result in system downtime or data loss.

This appendix discusses:

- Starting the Text Console
- Using the Text Console
- Command Categories

Starting the Text Console

The Text Console allows you to monitor and perform administration tasks from the File Manager or from a Windows Fibre Attached Client. However, functionality is limited when you run the tool from a Client.

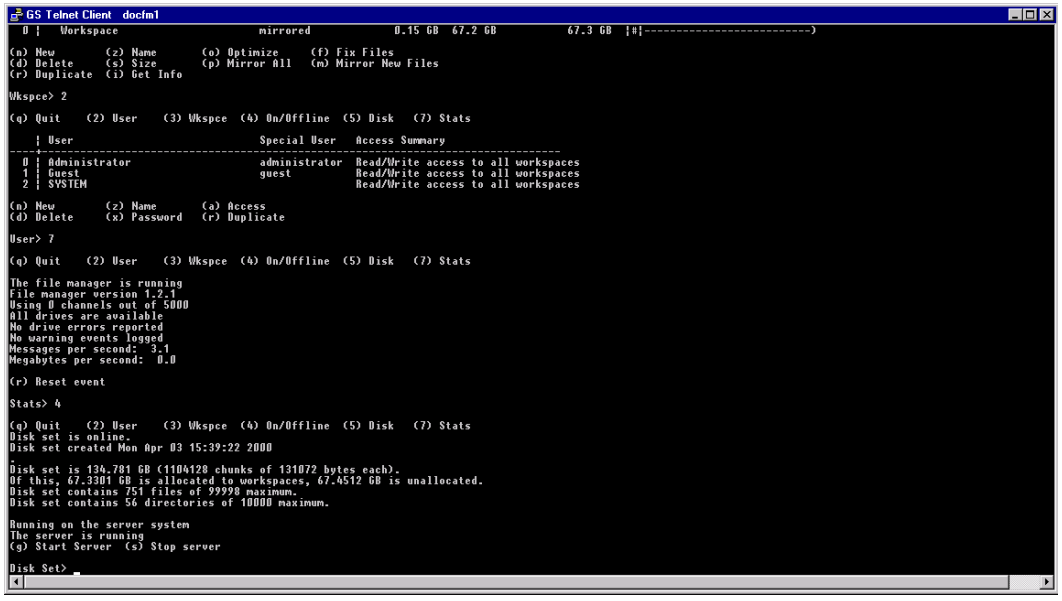
To start the Text Console from the File Manager console:

- Browse to the installation folder, then double-click TextConsole.exe.

The Text Console starts in an MS-DOS® window.

Using the Text Console

The Text Console is a text-based application that includes several categories of commands, each providing some or all of the information and functionality accessible from the corresponding Administration Tool.


GS Telnet Client docfm1
0 ¦ Workspace mirrored 0.15 GB 67.2 GB 67.3 GB ¦#¦----------)
(n) New (z) Name (o) Optimize (f) Fix Files
(d) Delete (s) Size (p) Mirror All (m) Mirror New Files
(r) Duplicate (i) Get Info
Wkspce> 2
(q) Quit (2) User (3) Wkspce (4) On/Offline (5) Disk (7) Stats
¦ User Special User Access Summary
0 ¦ Administrator administrator Read/Write access to all workspaces
1 ¦ Guest guest Read/Write access to all workspaces
2 ¦ SYSTEM Read/Write access to all workspaces
(n) New (z) Name (a) Access
(d) Delete (x) Password (r) Duplicate
User> 7
(q) Quit (2) User (3) Wkspce (4) On/Offline (5) Disk (7) Stats
The file manager is running
File manager version 1.2.1
Using 0 channels out of 5000
All drives are available
No drive errors reported
No warning events logged
Messages per second: 3.1
Megabytes per second: 0.0
(r) Reset event
Stats> 4
(q) Quit (2) User (3) Wkspce (4) On/Offline (5) Disk (7) Stats
Disk set is online.
Disk set created Mon Apr 03 15:39:22 2000
Disk set is 134.781 GB (11104128 chunks of 131072 bytes each).
Of this, 67.3301 GB is allocated to workspaces, 67.4512 GB is unallocated.
Disk set contains 751 files of 99998 maximum.
Disk set contains 56 directories of 10000 maximum.
Running on the server system
The server is running
(g) Start Server (s) Stop server
Disk Set>

Command Categories

Text Console commands are divided into the categories shown in Table “Command Categories” on page 151. You select a command category by typing a single corresponding key, or *access character*. When you select a command category, related information and a list of subcommands you can use appear.

Command Categories

Category	Access Character	Command Functions	Information Displayed
User	2	Show user account information and manipulation	List of users with access privilege information
W[or]ksp[a]ce	3	Show workspace information and manipulation	List of workspaces and related information
On/Offline	4	Start and stop the File Manager	Summary of File Manager statistics and its state
Disk	5	Obtain information about the data drive set	List of all drives in the data drive set
Stats	7	Obtain File Manager status and reset event log	Same information shown in the File Manager Status tab of the Monitor Tool
Quit	q	Quit the Text Console	None

The command prompt indicates which command category is currently selected. For example, when you select the User command category, the Text Console command prompt is:

```
User>
```

With the exception of the Disk command category, each category has subcommands, which you access by typing a single access character at the command prompt. Once accessed, subcommands prompt you through their operation. To abort a subcommand operation, press Enter (Windows) or Return (Macintosh) at its prompt.

When working within a command category, you can type the access character for any other command category to switch directly to that command category.

The User Command Category

When you type its access character (2), the User command category displays a list of user accounts and their workspace access privileges. The left column of the user list assigns a unit number to each user account. Use these unit numbers to specify the user account or list of user accounts upon which User subcommands must act.

The User subcommands are then shown with their corresponding access characters in the following table.

User Subcommands

Access Character	Command Name	Command Function
n	New	Creates a new user account
z	Name	Changes a user account name
a	Access	Changes user account workspace access privileges
d	Delete	Deletes user accounts
x	Password	Changes user account password
r	Duplicate	Creates a new user account with the same properties as an existing user

The Workspace Command Category

When you type its access character (3), the Workspace command category displays a list of workspaces, their sizes, and their protection status. The left column of the user list assigns a unit number to each workspace. Use these unit numbers to specify the workspace or list of workspaces upon which Workspace subcommands must act.

The Workspace subcommands are then shown with their corresponding access characters (see table “Workspace Subcommands” on page 153).

Workspace Subcommands

Access Character	Command Name	Command Function
n	New	Creates a new workspace
z	Name	Changes a workspace name
o	Optimize	Optimizes workspaces
f	Fix Files	Ensures duplication of all files on protected workspaces
d	Delete	Deletes workspaces
s	Size	Changes size of workspaces
p	Mirror All	Protects all existing files
m	Mirror New Files	Activates protection for all new files written to a workspace
r	Duplicate	Creates a new workspace with the same properties as an existing workspace
i	Get Info	Returns detailed workspace information

The On/Offline Command Category

When you type its access character (4), the On/Offline command category displays a summary of File Manager statistics and its state.

The On/Offline subcommands are then shown with their corresponding access characters (see the following table).

On/Offline Subcommands

Access Character	Command Name	Command Function
s	Start File Manager	Brings the File Manager online
g	Stop File Manager	Takes the File Manager offline

You can use these subcommands only if the Text Console is running on the File Manager system.

The Disk Command Category

When you type its access character (5), the Disk command category displays information about the drives in your data drive set.

The Disk command category is informational only; it has no subcommands.

The Stats Command Category

When you type its access character (7), the Stats command category displays a summary of your environment's statistics and its state (see the following table).

Stats Subcommand

Access Character	Command Name	Command Function
r	Reset event	Performs the same function as the Reset Event button in the Monitor Tool

You can use the 'r' command only if the Text Console is running on the File Manager system.

Appendix D

International Character Support

MediaNetwork v3.3 and later provides support for international characters by migrating the MediaNetwork metadata from a multibyte character string (MBCS) encoding to the Unicode character encoding. This allows you to use international characters in your MediaNetwork folder and file names. When you install MediaNetwork on your File Manager, all of the folder and file names in your MediaNetwork workspaces will be converted to Unicode.

International characters can currently only be used for folder and file names. They cannot be used for computer names, user names, passwords, or workspace names.

European Languages

In MediaNetwork Release 3.1 and earlier, folder and file names for European languages (such as French, Italian, German, or Spanish) created by Macintosh and Windows clients using Avid Composer Products software used a character encoding (MacRoman) that *is not* native to the Windows operating system. Windows clients that used applications other than Avid Composer Products software created folder and file names using a character encoding (ANSI) that *is* native to the Windows operating system.

The MacRoman and ANSI character encodings function in the same manner for 7-bit ASCII characters (such as a–z, A–Z, and 0–9), but there are differences for characters outside the ASCII character set. They each contain characters that do not appear in the other encoding.

In MediaNetwork v3.2 and later, all Macintosh and Windows clients use the Unicode character encoding. This character encoding is common to both clients, but has differences from MacRoman and ANSI. For a list of characters that you need to check before upgrading to MediaNetwork v3.6, see the *Avid Unity MediaNetwork Version 3.6 Upgrade Notes*.

Asian Languages

In MediaNetwork Release 3.1 and earlier, folder and file names for Asian languages (such as Chinese or Japanese) created by Macintosh and Windows clients using Avid Composer Products software (after installing the Avid language kit) used a character encoding (such as ANSI Japanese) that *is* native to the Windows operating system. Macintosh clients that used applications other than Avid Composer Products software created folder and file names using a character encoding (such as Mac Japanese) that *is not* native to the Windows operating system.

Character encodings like these function correctly for 7-bit ASCII characters (such as a–z, A–Z, and 0–9), but there are differences for characters outside the ASCII character set. They each contain characters that do not appear in the other encoding.

In MediaNetwork v3.2 and later, all Macintosh and Windows clients use the Unicode character encoding. This character encoding is common to both clients, but has differences from the language specific character encodings. For a list of checks that you need to make before upgrading to MediaNetwork v3.5, see the *Avid Unity MediaNetwork Version 3.6 Upgrade Notes*.

Avid supplies two HTML files (MacRoman_not_in_ANSI.htm and ANSI_not_in_MacRoman.htm) with these release notes (in the Documents folder on the MediaNetwork CD-ROM). One lists ANSI characters that do not appear in the MacRoman character set. The other lists MacRoman characters that do not appear in the ANSI character set. These files will help you determine characters that might not convert properly during the MediaNetwork upgrade. You will need to set your Web browser to display Unicode characters to view these files.

When you use an Asian double-byte operating system, the following restriction applies: ***If you use ASCII characters to name bins, projects, tapes, or other Avid elements, use single-byte characters.*** *If you use double-byte characters, the characters might appear with extra space between them and the names might not be recognizable by other clients.*

Operating systems that use a double-byte character system usually allow the user to choose between single-byte ASCII characters or double-byte ASCII characters. If you have a choice, use single-byte characters when entering ASCII text.

Invalid Characters

Macintosh and Windows clients and some language kits allow and display characters in varying manners. This can create problems with mounting or as you share media among several clients with different operating systems. To minimize file sharing problems, you should observe the following recommendations:

- Create workspace names with no spaces, periods, semicolons, or apostrophes in their names. If you need to separate two words in a workspace name, use an underscore instead of a space or period. A Macintosh Ethernet client cannot mount a workspace that contains an invalid character.

- Create file and folder names that do not contain special characters (such as, ™, ®, or ©). These characters can cause the client or the File Manager to behave unpredictably.

Unsupported Characters

Do not use the Japanese Yen (¥) symbol in the ASCII character set. The client might convert the symbol to a backslash.

Do not use the Y-acute (ý or Ý) and Y-diaeresis (ÿ or Ÿ) characters. Some clients do not recognize the Y-acute character. Some clients might not display the Y-diaeresis character correctly.

Normalization

All folder and file names are stored by the File Manager using the Unicode UTF-8 character set. As files and folders are requested by a client, the client converts their names from UTF-8 to a character set appropriate for the client. These character sets are:

- Windows clients convert to the UTF-16 character set
- Mac OS 9 clients convert to the MacRoman character set for European languages and the local code page for Asian languages
- Mac OS X clients use the UTF-8 character set without any conversion

All characters are stored using normalized Unicode Normalization form C.

Index

Numerics

7x24 work environment
  maintaining 43

A

Access privileges
  access levels 126
  changing 127
  managing 113
  read/write 126
  read-only 126
Accounts
  Guest, disabling 125
  user, creating 114
  user, deleting 125
  user, duplicating 122
Active data drives
  adding, to a data drive set 60
  removing, from a data drive set 63
Active File Manager
  determining 40
Adding
  active drives to a data drive set 60
  data drives to an existing data drive set 60
  drives to an allocation group 89
  spare data drives to the data drive set 58
  storage to your environment 58
Administration password
  setting 77
Administration Tool
  accessing Help for 72
  context-sensitive buttons 71
  described 69
  list area 71
  logging in to 73
  message area 71
  Preferences window 73
  starting 72
  user interface overview 70
  windows, described 71
AdministrationToolLog.txt file 131
Administrator tasks 22
Advanced support tools 145
Aggregate bandwidth 129
Allocation groups
  adding drives to 89
  creating 87
  deleting 94
  described 85
  managing 85
  removing drives from 90
  renaming 93
  usage guidelines 86
AutoRecovery
  enabling 43
Avid Unity Profiler tool 147

B

Bad drives
  identifying 134
  swapping out of data drive sets 139
Bandwidth
  aggregate 129

Bringing the data drive set online 67

C

Changing
monitor list graph display 130
user passwords 125
workspace access privileges 127
workspace list graph display 98
workspace preferences 79
workspace size 101
Characters
illegal, in allocation group names 93
illegal, in user account names 124
illegal, in workspace names 103
Collapsible views 71
Color preferences 80
Command categories (Text Console) 150
Configuration Assistant 56
Configuration considerations
See also Fail-over configuration
allocation groups 22
data protection 23
security 23
site type 22
uncompressed clients 22
Configuring
Avid Unity MediaNetwork 21
e-mail error notification service 53
File Manager fail-over 48
general settings 46
workgroups 30
Context-sensitive buttons 71
Creating
a data drive set 56
allocation groups 87
data drives from raw drives 61
new workspaces 99
user accounts 114

D

Data Drive Set group 38
Data drive sets
See also Drives, Drive sets, Raw drives
adding data drives to 60
adding spare drives to 58
bringing online 67
contents of 56
creating 56
creating from raw drives 57
deleting 65
rebuilding 66
removing active data drives from 63
replacing 139
taking offline 67
Data protection 35
Decreasing workspace size 103
Deleting
a data drive set 65
an allocation group 94
user accounts 125
workspaces 103
Detecting failed drives 139
Detecting slow drives 138
Disabling Guest accounts 125
Disabling protection
for new files only 107
Disk command category (Text Console) 154
Disk Error Analyzer utility 135
Drive group list 39
Drive groups 38
Data Drive Set 38
Other FibreChannel drives 38
Drive hardware
managing 55
Drive mode pages
setting 65
Drive recovery
online 43
Drive sets
See also Data drive sets
removing drives from 62
Drives
See also Data drive sets, Raw drives
adding, to allocation groups 89
AutoRecovery for failed 43
identifying 92
identifying bad 134
recovering 140
removing 62

removing, from allocation groups 90
swapping out bad drives from data drive sets 139
Duplicating
user accounts 122
workspaces 100

E

Enabling AutoRecovery
for failed drives 44
Enabling protection
for new files only 106
for workspaces 105
Exporting preferences 76

F

Factory Settings button 75
Failed drives
AutoRecovery for 43
Fail-over
configuring the File Manager 48
Fail-over configuration
guidelines 40
using Setup Manager in 40
File Manager
determining active 40
IP addresses 49
reestablishing connection to 83
starting 40
stopping 41
File Manager fail-over
configuring the first File Manager 50
configuring the second File Manager 51
validating connections for 51
File protection
Synchronize All Files option 107
Files
new, disabling protection for 107
new, enabling protection for 106

G

General Configuration Options dialog box 46
General settings
configuring 46
Graph bar colors
setting 80
Graph scaling 98
Guest user account 125
Guidelines
allocation group usage 86
fail-over configuration 40

H

Hardware
drive, managing 55
Help
Administration Tool 72
Monitor Tool 29
Setup Manager 39

I

Identifying
bad drives 134
drives 92
Illegal characters
in allocation group names 93
in user account names 124
in workspace names 103
Importing preferences 76
Information area
Setup Manager 39
IP addresses
File Manager 49

L

Launching
Administration Tool 72
Setup Manager 39
Text Console 149
Linear scale 98
in monitor list 130
List area 71
List opener 71
Lists
drive group 39

workspace 96
Log file
managing 131
viewing 131
Logarithmic scale 98
Logging in to the Administration Tool 73
Logo
setting preferences for 82
LUN Masking 47

M

Management tasks 22
Management tools 26
Managing
access privileges 113
allocation groups 85
drive hardware 38
log file 131
user accounts 113
workspaces 96
Maximum open files option 47
MediaNetwork File Manager
reestablishing a connection to 83
MEDIArray ZX drives
adding 59
MEDIArray ZX Event Viewer
filter events 137
select events 136
using 136
MEDIArray ZX3 definition 21
Message area 71
Metachecker utility 58
Missing drives, on startup 47
Mode pages
setting 65
Modifying
user accounts 124
Monitor graph bar
setting colors for 80
Monitor list 129
linear graph scaling 130
Monitoring system usage 129
Moving
workspaces 109

N

New files
disabling protection for 107
enabling protection for 106
NtStatDump tool 146

O

On/Offline command category (Text Console) 153
Online drive recovery 43
how it works 140
Online Help
See Help
Opening
Administration Tool 72
Optimizing workspaces 108
Other FibreChannel Drives group 38

P

Passwords
administration 77
changing user 125
user 125
Permissions
user accounts 116
Preference
undoing or canceling 75
Preference tabs
Color 80
Workspace 79
Preferences
exporting 76
importing 76
logo, setting 82
saving 75
warning, settings 81
workspace, setting 79
Preferences window (Administration Tool) 73
tabs in, described 74
Privileges
workspace access 126
Protecting data 35
Protection

disabling, for new files only 107
enabling, for new files only 106
enabling, for workspaces 105
recommendations 104

R

Raw drives
creating a data drive set from 57
creating data drives from 61
creating spare data drives from 58
Read/write access privilege 126
Reading the workspace list graph 97
Read-only access privilege 126
Rebuilding a data drive set 66
RecoverDisks tool 146
Recovering drives 140
Redundancy for File Manager 50
Reestablishing a connection to the MediaNetwork File Manager 83
Removing
drives 62
drives from an allocation group 90
storage 64
Renaming
an allocation group 93
workspaces 103
Replace Failed Data Drive operation 139
Replacing
data drive sets 139
Resize handle 101
Resizing workspaces 101
Revert Panel button 75

S

Security considerations 23
Server Log Viewer 145
Setting
administration password 77
Administration Tool preferences 73
color preferences 80
drive mode pages 65
preferences for logo 82
the administration password 77
user account preferences 78
Workspace preferences 79
Setting up
e-mail error notification 52
Settings
general, configuring 46
preferences for warnings 81
Setup Manager
drive group list 39
information area 39
overview 38
starting 39
using, in a fail-over configuration 39
Spare data drives
adding data 58
creating, from raw drives 58
Starting
Administration Tool 72
File Manager 40
Setup Manager 39
Stats command category (Text Console) 154
Stopping
File Manager 41
Storage
adding, to your environment 58
physically removing 64
Support tools 145
Swapping bad drives out of data drive sets 139
Synchronize All Files option
file protection and 107
System usage
monitoring 129

T

Taking the data drive set offline 67
Text Console
command categories 150
starting 149
using for remote administration 149
The Workspace Management Window 95
Tools
advanced support 145
Avid Unity Profiler 147
management, overview 26

NtStatDump 146
RecoverDisks 146
Server Log Viewer 145
Turn Off Alarm button 53

U

User accounts
configuring 116
creating 114
deleting 125
duplicating 122
Guest 125
managing 113
modifying 124
passwords 124
permissions 116
User command category (Text Console) 152
User interface
Administration Tool 70
User Interface windows
Connection Monitor 129
Log file 130
Workspace 96
User Management window 114

V

Viewing the log file 131
Views 71

W

Warnings
setting preferences for 81
Windows
Administration Tool, described 71
Allocation Group Management 85
User Management 114
Workspace Management 96
Workgroups
configuring 30
Workspace command category (Text Console) 152
Workspace graph bar
setting colors for 80
Workspace list
linear graph scaling 98
logarithmic graph scaling 98
reading the graph 97
Workspace list graph display
changing 98
Workspace Management window 96
Workspace tab
preferences 79
Workspaces
access privileges 126
creating new 99
deleting 103
duplicating 100
managing 95
moving 109
optimizing 108
renaming 103
Resize handle 101
resizing 101
setting preferences for 79